

GETINGE

600 SERIES STEAM STERILIZERS
INSTALLATION MANUAL
61301607027 REV A US



INSTALLATION MANUAL

61301607027 REV A US

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NOTE

This manual contains proprietary information of Getinge USA, Inc. It shall not be reproduced in whole or in part without the written permission of Getinge USA, Inc.

This manual is intended for qualified technicians with specialized training. If you require additional help, contact the company service representative.



WARNING

POSSIBILITY OF INJURY: Misuse of equipment or bypassing its safety features may result in personal injury.



CAUTION

POSSIBILITY OF EQUIPMENT DAMAGE: Misuse of equipment may result in equipment damage.

The 600 Series Steam Sterilizer is designed to steam sterilize hospital and laboratory goods and solutions. This equipment is NOT intended for use other than expressly stated.

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SECTION 1 PREFACE

BEFORE YOU BEGIN

Before installing the sterilizer, please read all the instructions and become familiar with the sterilizer's design, safety features, and operation.

This manual is intended to provide the knowledge to ensure safe sterilizer installation by qualified technicians with specialized training in the installation of Getinge 600 Series Sterilizers. If additional help is required, contact a qualified Getinge service representative.

The following documentation is supplied with the machine:

- User Manual, Part Number 61301607026 (633HC) or 61301607502 (633LS)
- Installation Manual, Part Number 61301607027
- Quick Reference Poster, Part Number 61301607268 (633HC) or 61301607503 (633LS)

The following documentation is available for purchase:

- Technical Manual, Part Number 61301607028
- Parts Catalog, Part Number 61301607029



NOTE

Getinge reserves the right to make changes to specifications and equipment without prior notice. The information contained within this manual is current as of the date of issue.

SUMMARY OF CONTENTS

This manual is divided into eight (8) sections as follows:

- Section 1 Preface—includes information regarding the intended audience, a summary of the manual's contents, advisories, and environmental impact.
- Section 2 Safety—includes important precautions and safety features.
- Section 3 Packaging—includes information regarding the uncrating and positioning of the sterilizer.
- Section 4 Installation Instructions—includes information regarding the assembly and connection of the sterilizer, as well as plumbing and electrical information.
- Section 5 Optional Equipment—includes information and drawings for all available sterilizer options.
- Section 6 Drawings—includes Roughing-In Drawings, and Seismic Anchorage Calculations.
- Section 7 Technical Data—includes product requirements and specifications.
- Section 8 Functional Check—includes a checklist to verify the operational state of the sterilizer after installation.

ENVIRONMENTAL IMPACT ASSESSMENT

The 600 Series Steam Sterilizers consist of stainless steel, copper, and electronic and electrical components which can be recycled at the end of the sterilizer lifecycle. The sterilizer also contains plastic and batteries which can NOT be recycled and should be disposed of in accordance with local and federal regulations.

DESCRIPTION OF SYMBOLS ON THE EQUIPMENT

The following symbols and definitions represent the switches, indicators, and labels found on the unit.

SWITCHES



Open Door



Close Door



Clear Alarm



Start



Directional Arrows (for navigating display screens)



Enter



Up Arrow Softkeys (for selecting softkey options (i.e. Save, Cancel, or OK))



CONTROLS OFF/ON



CONTROLS DISABLE/ENABLE

INDICATORS



Door(s) Closed



Door(s) Sealed



In Process



Process Complete



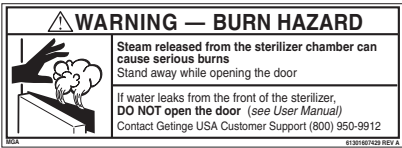
Process Failure

LABELS

The following labels on the sterilizer alert personnel to possible hazards.



Hot surfaces or heat-emitting area. Avoid contact. Risk of burns.



WARNING—BURN HAZARD: Steam released from the sterilizer chamber can cause serious burns. Stand away when opening door.



WARNING: Do not enter chamber without disabling controls. Processing a type of load other than defined in the User Manual could be hazardous.

The following labels on the Control Box and Power Box alert service personnel to possible hazards.

HIGH VOLTAGE



CAUTION: To reduce the risk of electrical shock, do not remove cover. Refer servicing to qualified service personnel.



ATTENTION: Refer to accompanying documents for further information.

Electrostatic Sensitive Devices



MANUAL CONVENTIONS

Before you begin using this manual, it is important to understand the conventions used. These conventions are established for visual ease of use.

ITALIC CAPS	Display text, such as the <i>ENTER PASSWORD</i> prompt.
[ALL CAPS]	Softkeys on the control panel, such as [CANCEL] or [OK].
ALL CAPS	Switches and indicators on the control panel, such as ENTER.
>	The > symbol leads you through nested menu items and dialog box options to a final action. For example: PARAMETERS>enter password>EDIT.
Italic Upper/Lower Case	Cross reference to another manual or guide, such as: see “Leveling the Sterilizer Door” on page 4–13.

SYMBOLS USED IN THIS MANUAL

The following symbols with related notes appear in this manual.



WARNING

“Warning” notes alert the user to the possibility of personal injury.



CAUTION

“Caution” notes alert the user to the possibility of damage to the equipment.



NOTE

“Notes” alert the user to pertinent facts and conditions.

HOW TO USE THIS MANUAL

PLAN THE INSTALLATION

Ensure all installation requirements have been met:

1. Review the Installation Drawings (Section 6) and architect's drawing.
2. Review the Technical Data (Section 7) for steam supply and steam boiler feedwater quality recommendations.

INSTALL THE EQUIPMENT

Install the sterilizer as follows:

1. Unpack the sterilizer.
2. Remove the sterilizer from the skid, then roll the sterilizer to the room where it will be located.
3. Position and level the sterilizer.
4. Connect the plumbing.
5. Connect the wiring.
6. Install any remaining optional equipment.
7. Anchor the sterilizer.
8. Install the optional cabinet package.
9. Perform the functional check.

GENERAL

The 600 Series Steam Sterilizers are designed to sterilize and dry (where applicable) typical healthcare and laboratory goods. The sterilizers will include pressure pulse gravity steam, pressure vacuum pulsing, and liquids cycles. These sterilizers are NOT intended for use other than expressly stated.

The sterilizers are designed with a number of built-in safety devices. To avoid injury, it is very important that these safety devices are not bypassed and/or disabled.



CAUTION

DAMAGE TO EQUIPMENT: Follow the instructions in this manual to ensure the safe and efficient performance of the sterilizer. Failure to comply with these instructions or to provide specific services could void the warranty.

AUTHORIZED SERVICE REPRESENTATIVE

- Read all instructions thoroughly before installation.
- Installation and service work must be performed by qualified personnel trained on this sterilizer.
- The sterilizer must be operated by personnel who are knowledgeable about the sterilizer operation and are trained on its use.
- Personnel must receive regular periodic training on the operation and maintenance of this equipment in accordance with established procedures for the workplace.

ELECTRICAL SAFETY

- Switch off the electric power before opening the electrical components. The components contain the following voltage:

Control Box	24 Vac
Power Box	115 Vac
Boilers	208, 240, 480, or 600 Vac, Three-Phase

- Before welding begins on or close to the sterilizer, all wiring connected by plugs and sockets must be disconnected from all circuit boards of the control system.

HOT SURFACES AND PIPES



WARNING

BURN HAZARD: Turn OFF and lock out/tag out the steam and hot water supplies before servicing the sterilizer. Allow the steam to dissipate and let the sterilizer cool down before touching any piping or surfaces.

- There are hot surfaces in the service area. Avoid touching any piping that could contain steam.
- The sterilizer uses hot water and steam which have the potential of causing burns or serious injuries. Wear personal protective equipment suitable for hot water and steam.

LOCKOUT

- Always keep the door to the service area locked.
- No personnel should be in the service area while the sterilizer is running.
- Never bypass the door limit switches of the sterilizer.
- When servicing the unit, the CONTROLS DISABLE/ENABLE switch should be set to DISABLE. Remove the key and keep it with you.

OTHER CONSIDERATIONS

- Leakage in the system must be repaired without delay.
- The sterilizer must be kept clean to ensure optimum performance.
- Do not hose down the outside of the sterilizer with water.

SAFETY FEATURES



WARNING

SHOCK HAZARD: To disconnect all power, turn OFF the sterilizer at the mains circuit breaker. The On/Off Controls do not remove primary power from the sterilizer.



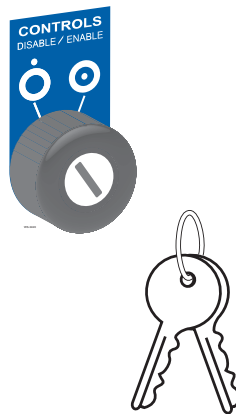
NOTE

The maximum sound pressure level of the equipment that the operator is exposed to does not exceed 85 dBA

DOOR LOCKOUT

The door can be locked in the open position for maintenance when inside the chamber. Turn the key to DISABLE and remove it. To prevent someone from closing the door during maintenance, keep the keys with you.

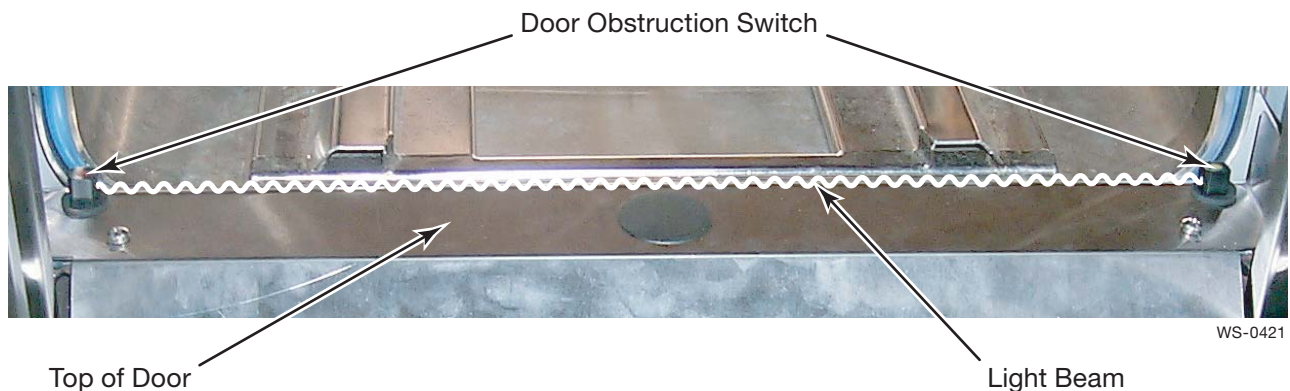
FIGURE 2-1. LOCKING THE DOOR IN THE OPEN POSITION



DOOR OBSTRUCTION SWITCH

The sterilizer uses a light beam switch at the top of the door to sense when an object is in the path of the movement of the door. When the light beam is broken as the door is closing, the door stops and reverses for two seconds.

FIGURE 2-2. DOOR OBSTRUCTION SWITCH

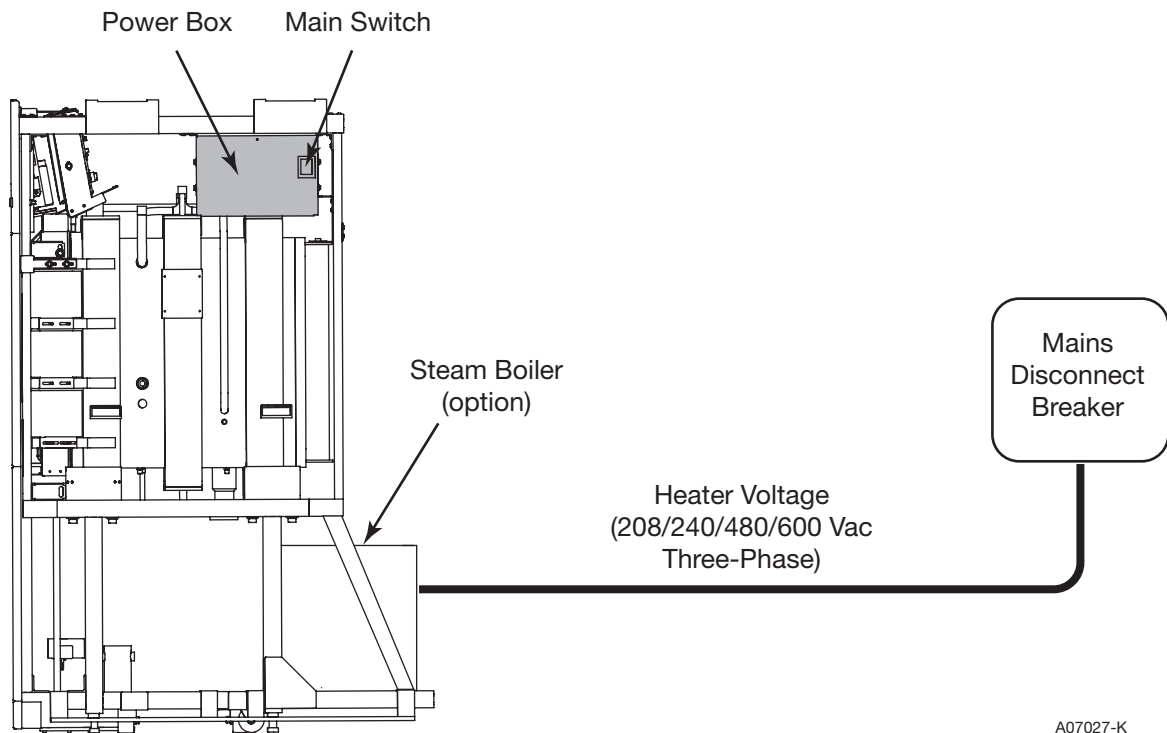


ISOLATING DEVICE

The sterilizer is fitted with a main switch on the power box (located on the right side of the sterilizer). This switch removes primary power (120 Vac) from the sterilizer.

Sterilizers with a steam boiler have a three-phase heating circuit that requires a separate mains disconnect. The power switch on the boiler turns the boiler control circuits ON and OFF.

FIGURE 2-3. CIRCUIT BREAKER LOCATION



NOTE

The CONTROLS ON/OFF switch turns the sterilizer controls ON and OFF but does not remove primary power.

The CONTROLS DISABLE/ENABLE switch disables the door motor circuits to prevent door movement during routine maintenance.

The control voltage for the optional steam boiler is provided by the sterilizer power box.

PRODUCT LIABILITY

Modifications made to the sterilizer without the express approval of the manufacturer, or incorrect use of the unit will invalidate the manufacturer's product liability.

SECTION 3 PACKAGING

BEFORE YOU BEGIN

The Getinge 600 Series Sterilizers are shipped fully assembled. Only qualified Getinge service representatives or personnel trained by Getinge should install the sterilizer.



WARNING

POSSIBILITY OF INJURY: The sterilizer is top-heavy and could tip when you remove it from the shipping base.

Use caution when moving the unit to ensure there is no accidental tipping causing damage or bodily injury.

SHIPPING WEIGHT

Refer to the following chart for the weight of the crated sterilizers:

Chamber Length	26 in.	39 in.	51 in.
Single Door	1,160 lb (526 kg)	1,365 lb (619 kg)	1,506 lb (683 kg)
Double Door	N/A	1,508 lb (684 kg)	1,649 lb (748 kg)

LIFTING EQUIPMENT

A pallet jack is required to remove the sterilizer from its shipping skid. Once the skid is removed, the sterilizer can be rolled on its casters to the room where it will be located.

CLEARANCES

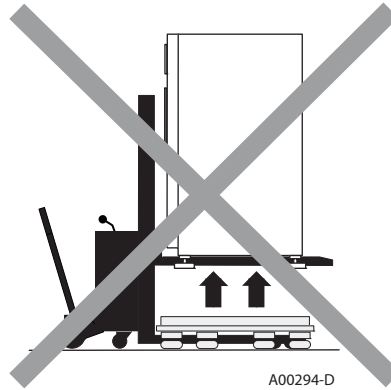
The uncrated sterilizer is 39.5 inches (1003 mm) wide and 73.5 inches (1867 mm) tall. The maximum length of the sterilizer is 65.75 inches (1670 mm).

UNCRATING



CAUTION

DAMAGE TO EQUIPMENT: Do not lift or position the sterilizer using the cross members of the sterilizer frame. Doing so could misalign the door assembly.



UNPACKING THE STERILIZER

To unpack the sterilizer:

1. Move the sterilizer as close to the installation site as possible.
2. Refer to Figure 3–1 on page 3–3. Remove any packaging and shipping material or tape.
3. Set aside the large carton containing the interior equipment.

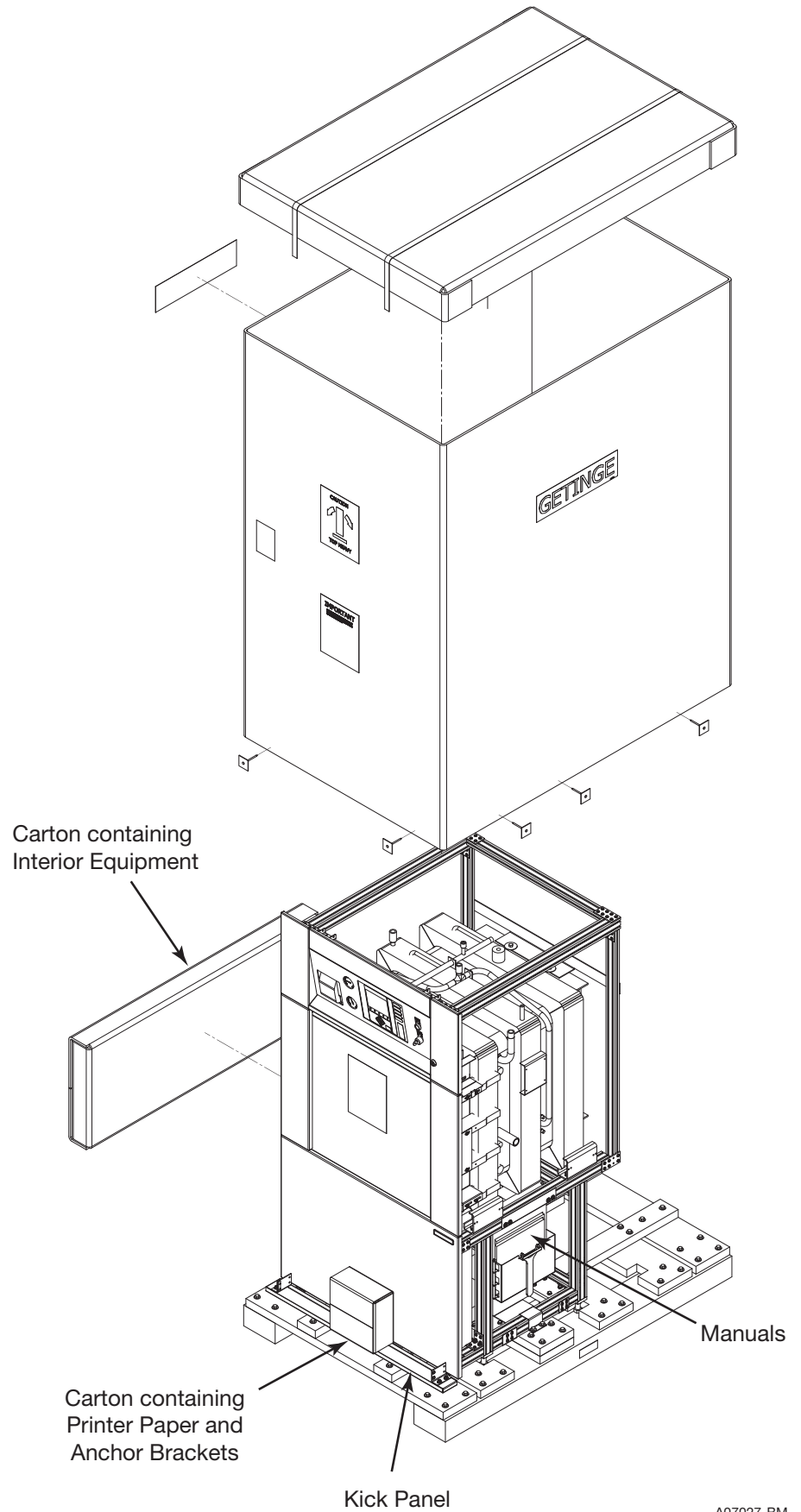


NOTE

If a loading car and transfer carriage was purchased, the sterilizer carton will contain a track for the loading car. The loading car and transfer carriage will be shipped in a separate carton.

4. Set aside the small carton.
5. Set aside the kick panel.

FIGURE 3-1. REMOVING THE PACKAGING



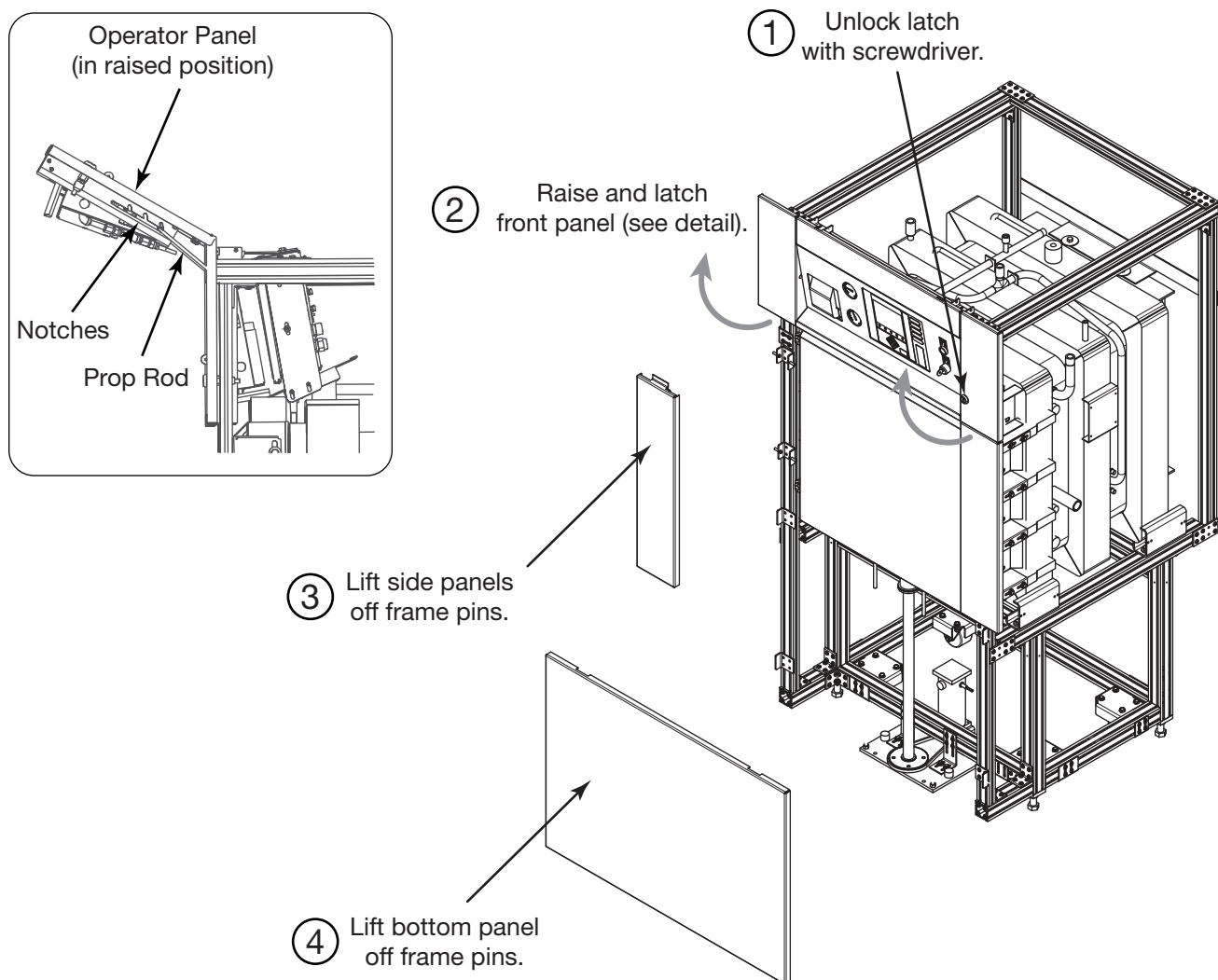
A07027-BM

REMOVING THE STERILIZER FRONT PANELS

To remove the front panels:

1. Refer to Figure 3–2. Use a screwdriver to turn the keyhole latch and unlock the panels.
2. Unlatch the top panel, swing it open, and prop it open with the prop rods found on the left and right sides of the panel.
3. Lift the left and right side panels off of the frame pins. The pins slide through the slots on either side of the panels and lift out of the slot in the lower panel.
4. Lift the bottom panel up off of the frame pins.

FIGURE 3-2. STERILIZER FRONT PANELS



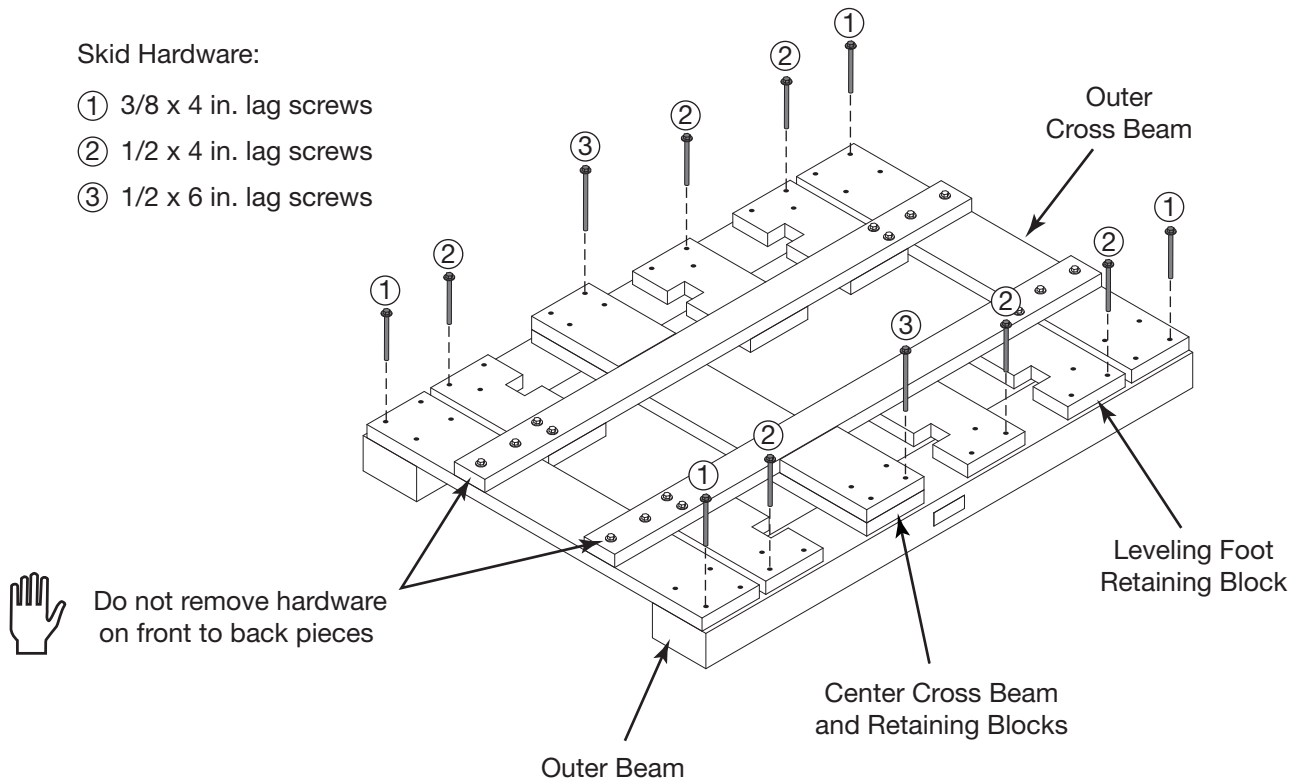
A07027-A2

REMOVING THE SKID

To remove the sterilizer from its skid:

1. Refer to Figure 3-3. Remove the hardware from the outer beams:
 - a. 3/8 x 4 in. lag screws (item 1) that attach the outer cross beams to the outer beams (16 places).
 - b. 1/2 x 4 in. lag screws (item 2) that attach the leveling foot retaining blocks to the outer beams. (18 places on 26 in./39 in. skid, 12 places on 51 in. skid).
 - c. 1/2 x 6 in. lag screws (item 3) that attach the center cross beam and retaining blocks to the outer beams (8 places).

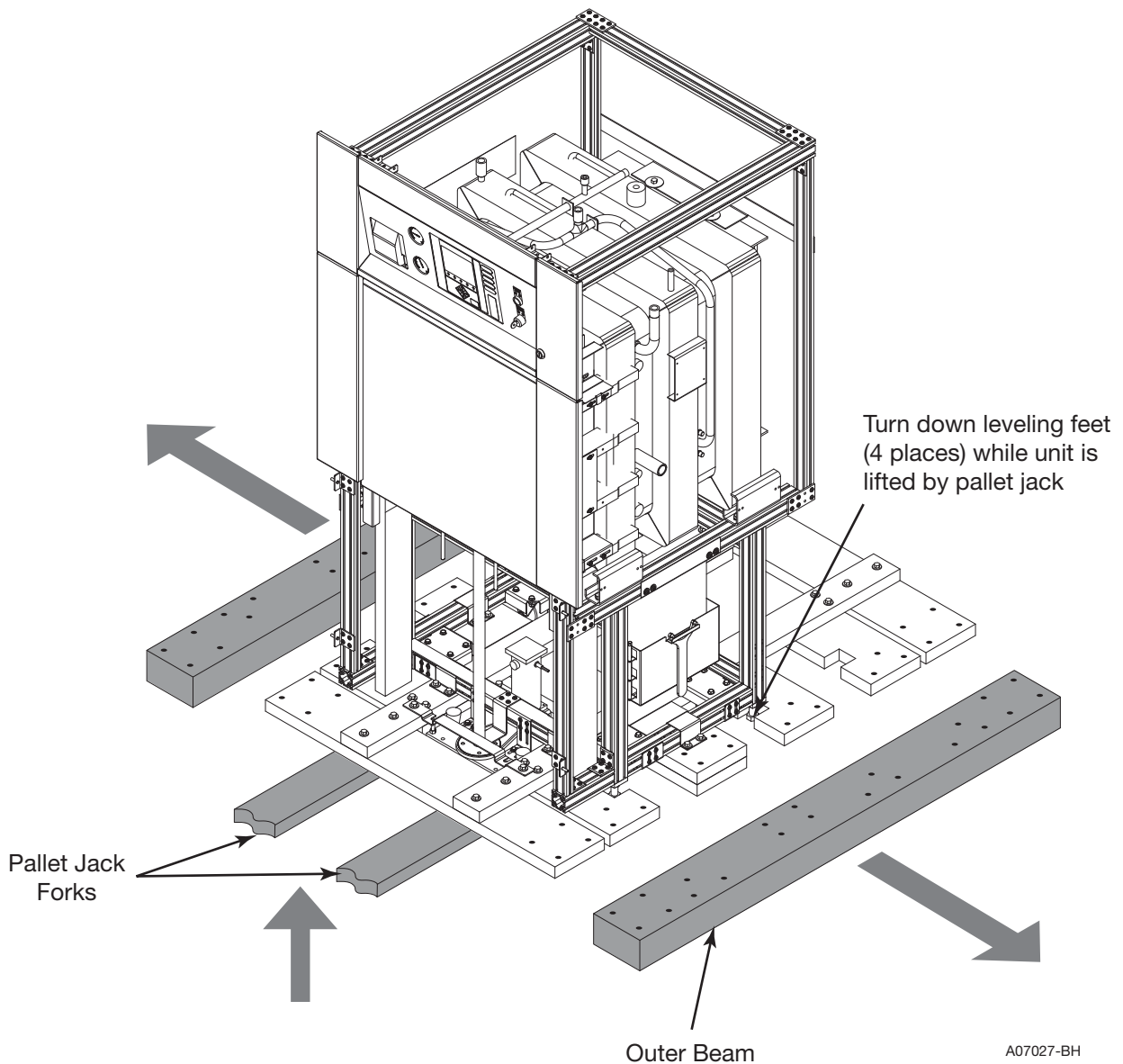
FIGURE 3-3. SKID HARDWARE



A07027-BN

2. Using the pallet jack, raise the sterilizer skid until the outer beams can be removed (see Figure 3–4).

FIGURE 3–4. REMOVING THE OUTER BEAMS



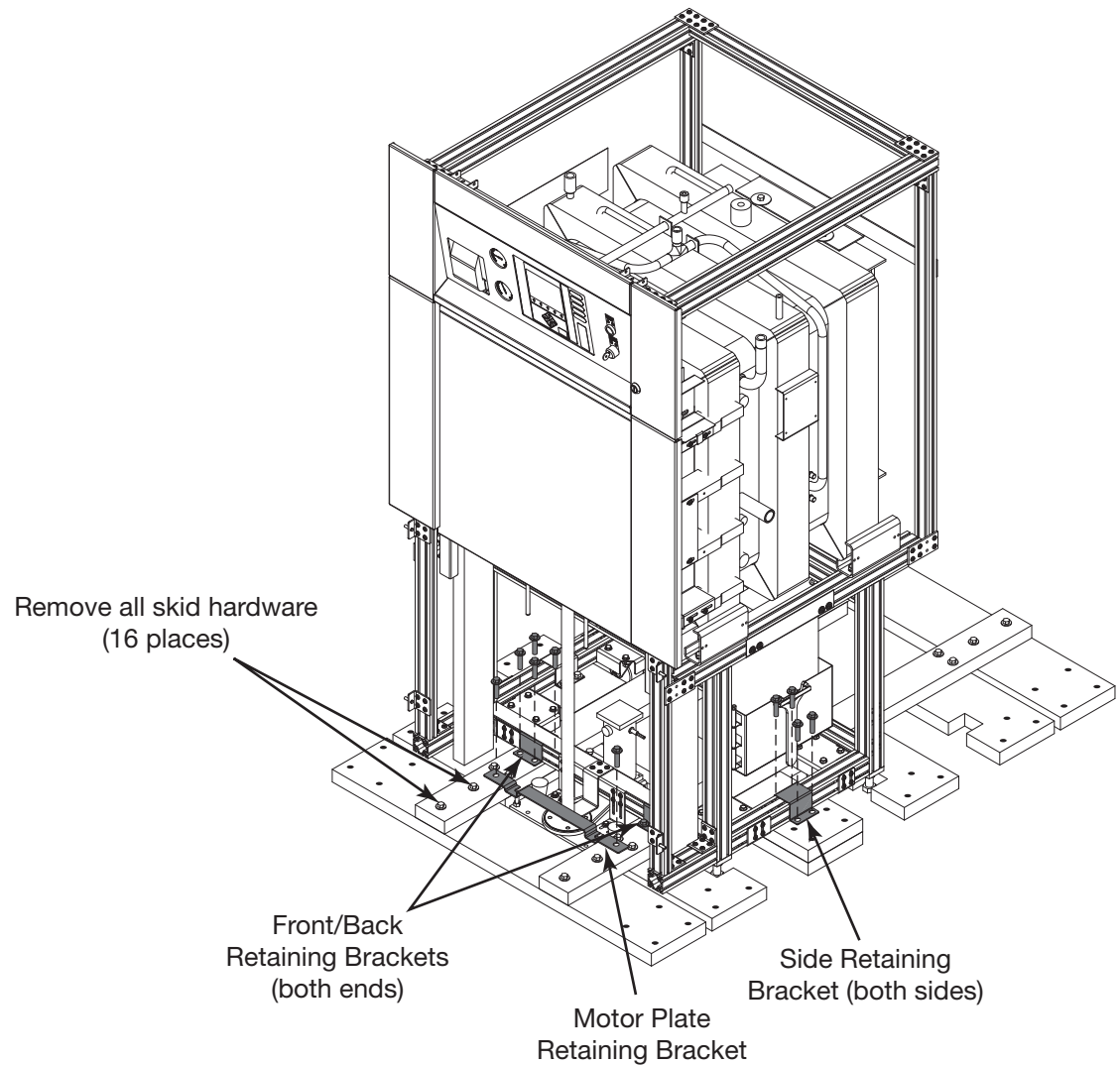
CAUTION

DAMAGE TO EQUIPMENT: Do not extend the leveling bolts more than 5 inches (127 mm). The bolts are 6 inches long (152 mm) and might be damaged by the weight of the sterilizer if overextended.

3. Once the outer beams have been removed, turn down all four leveling feet until they extend below the skid.
4. Lower the sterilizer skid until the leveling feet rest on the floor.
5. Remove the pallet jack.

6. Remove the motor mounting plate retaining bracket(s) (see Figure 3-5).

FIGURE 3-5. REMOVING THE RETAINING BRACKETS



A07027-BJ

7. Remove the front and back retaining brackets.
8. Remove the side retaining brackets.
9. Remove all the remaining skid hardware.
10. Disassemble and remove the rest of the shipping skid.

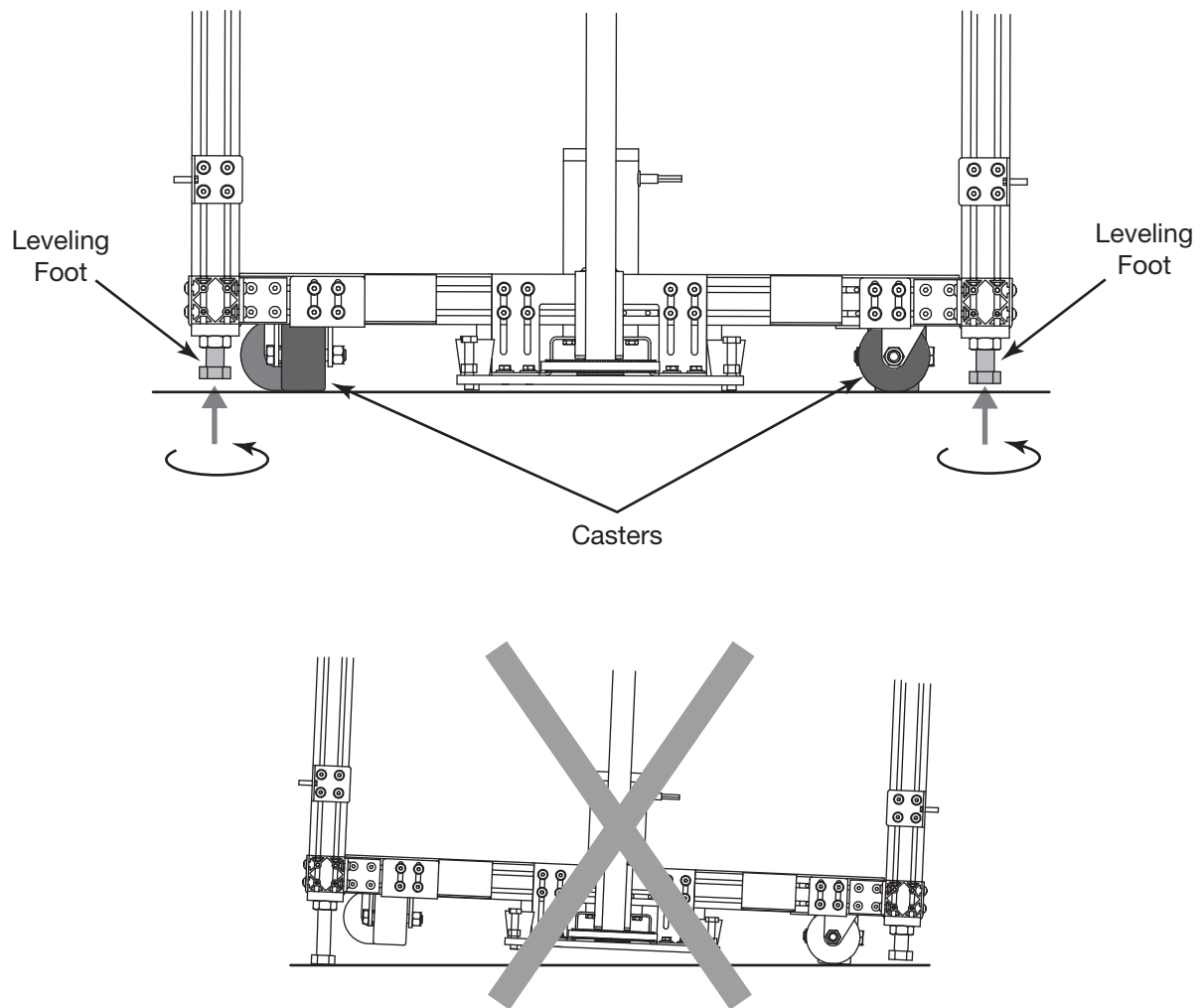
**WARNING**

POSSIBILITY OF INJURY: When lowering the sterilizer onto the casters, turn the leveling feet incrementally to keep the unit as even as possible. If the weight of the sterilizer is not evenly distributed, it may become unstable.

11. Lower the sterilizer onto the casters:

- a. Turn each leveling foot one half-turn counterclockwise.
- b. Continue to turn the leveling feet incrementally until the sterilizer rests on the casters.

FIGURE 3-6. LOWERING THE STERILIZER ONTO ITS CASTERS



A07027-BK

12. Roll the sterilizer to its final location.

SECTION 4 INSTALLATION INSTRUCTIONS

BEFORE YOU BEGIN



CAUTION

Follow the instructions in this manual to ensure safe and efficient performance of the equipment. Failure to comply with these instructions or to provide specific services could void the equipment warranty.



NOTE

Before installing the sterilizer, be sure the location is prepared for water, electrical power, steam, and waste as outlined on the roughing-in drawing (Figure 6-1, Sheet 5 on page 6-6).

Review the technical requirements for standard and optional equipment outlined in this chapter and in Section 5, Optional Equipment.

UTILITY REQUIREMENTS

The following utility connections (as specified on the roughing-in drawing) are required for all sterilizers:

- Manual shutoff valves, pressure gauges, and steam trap (supplied by customer) for the water and steam supplies at the sterilizer site.



NOTE

Unions must be used for the steam supply, cold water supply, and pressure relief valve connections to the sterilizer.

- Steam Supply (S). The steam source may be either an integral steam boiler or a facility steam supply.
- Cold Water Supply (CW). A backflow preventer (supplied by customer) must be installed as required by local codes.
- 120 Vac Electrical Supply (E). Conveniently accessible fused disconnect switches (supplied by customer) are required in all electrical supply lines at the sterilizer site.
- Three-phase Electrical Supply (K). Required if an integral steam boiler is used. Available boiler voltages are 208, 240, 480, and 600 Vac.
- Drain (D).
- Pressure Relief Valve (SV).

TOOLS AND MATERIALS REQUIRED

The following tools are required to install the sterilizer:

- 2 ft. spirit level
- torpedo level
- try square (or tape measure)
- torque driver set
- spanner wrench (supplied by Getinge—see Figure 4-1)
- 2 in. x 2 in. shims (see note below)

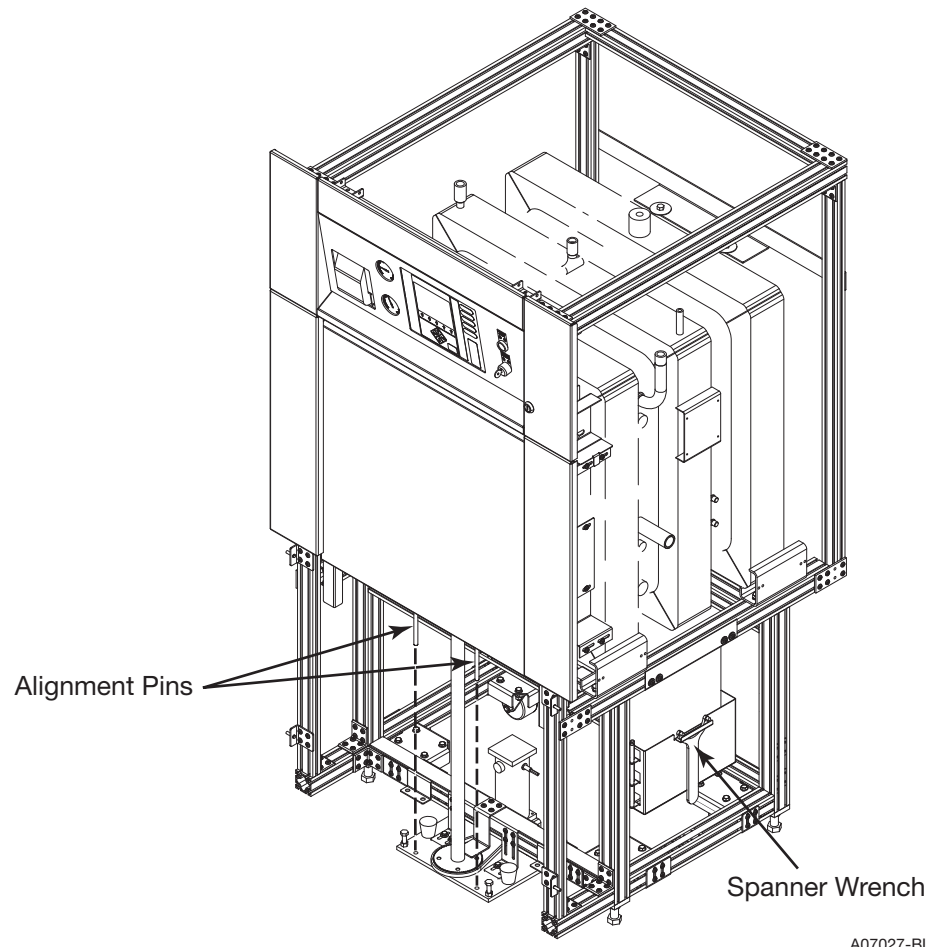


NOTE

Place shims under leveling feet and door motor mounting plate leveling bolts to prevent damage to soft flooring materials such as linoleum. Single door units require 8 shims, double door units require 16 shims.

The door alignment pins may be used as a guide when leveling the door. See “Leveling the Sterilizer Door” on page 4-13.

FIGURE 4-1. INSTALLATION TOOLS



A07027-BL

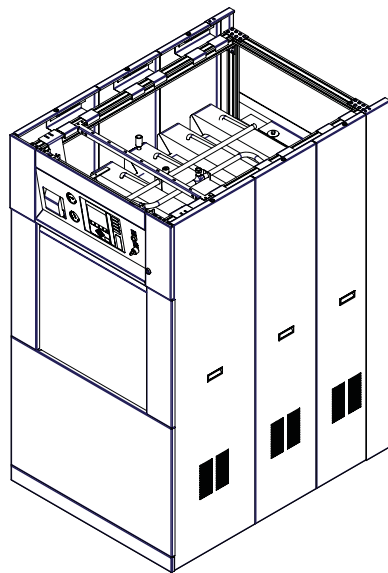
POSITIONING AND LEVELING

**CAUTION**

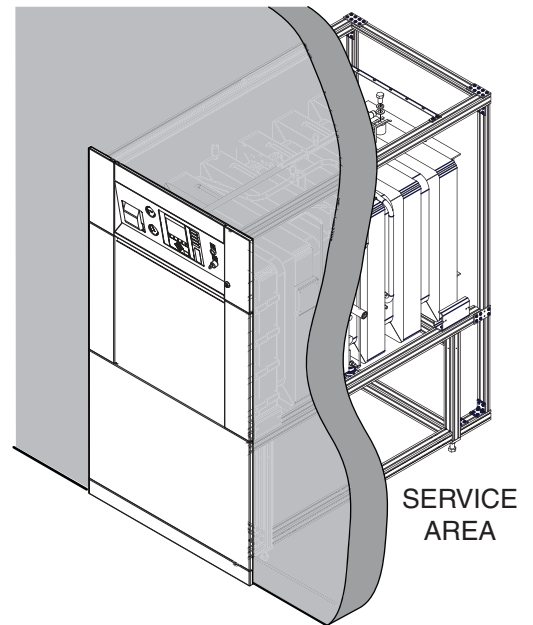
Be careful to avoid possible surface damage to the floor when maneuvering the sterilizer into position.

Permanent positioning is determined by the configuration of the model being installed. Single door units may be freestanding or recessed into a wall (see Figure 4-2).

FIGURE 4-2. SINGLE DOOR INSTALLATION



Freestanding (with Cabinet)



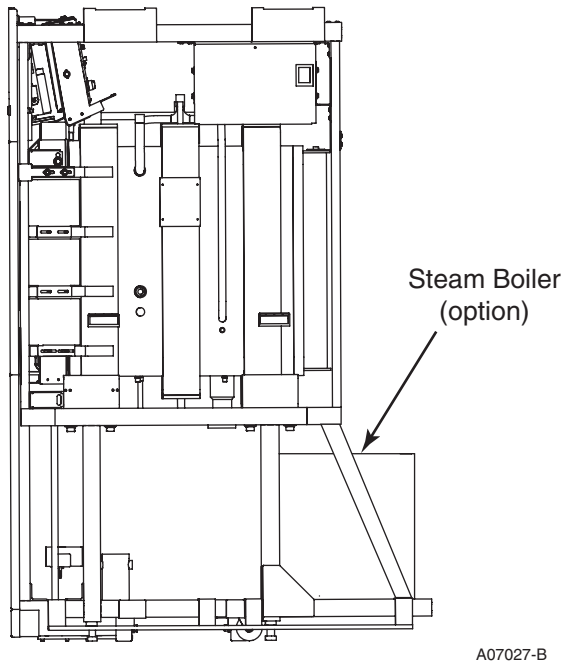
Recessed into Wall

A07028-B



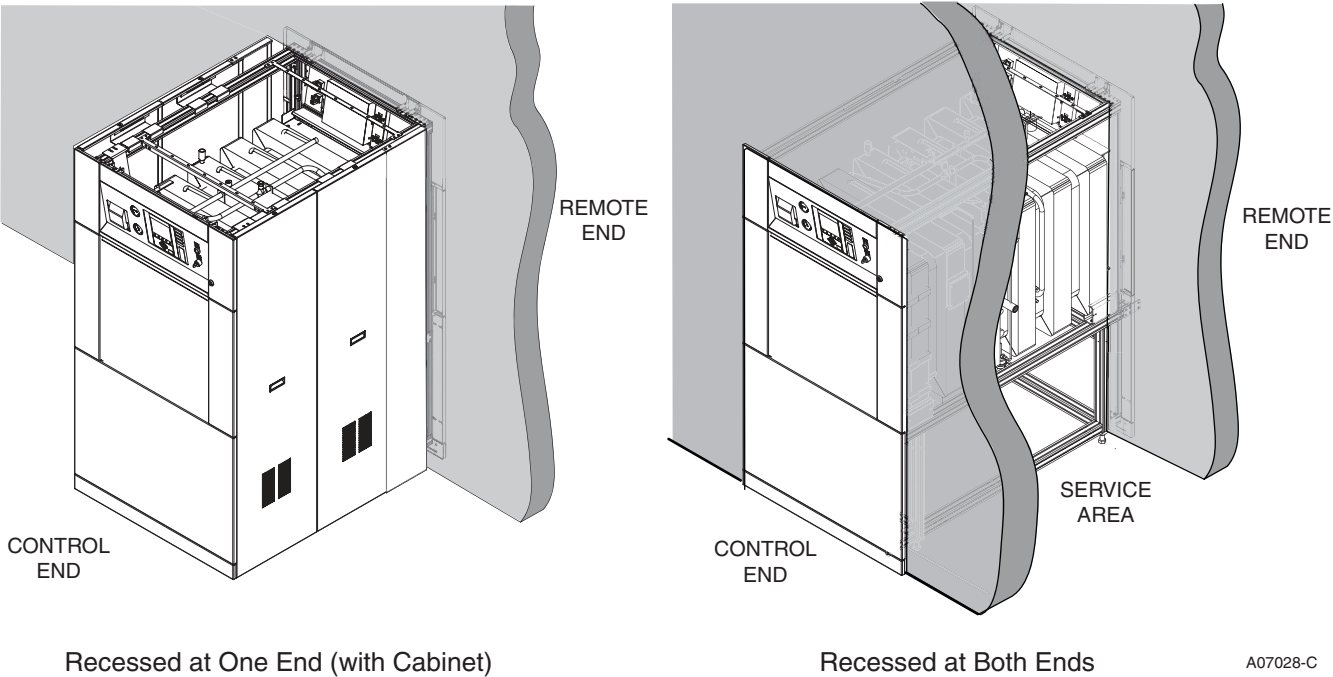
NOTE
26 IN. LENGTH WITH STEAM BOILER: The steam boiler extends beyond the end of the sterilizer frame (see Figure 4-3).

FIGURE 4-3. 26 IN. LENGTH UNIT WITH STEAM BOILER



Double door units may be recessed into a wall at one end or both ends (see Figure 4-4). Compliance with the roughing-in drawing specifications is essential.

FIGURE 4-4. DOUBLE DOOR INSTALLATION

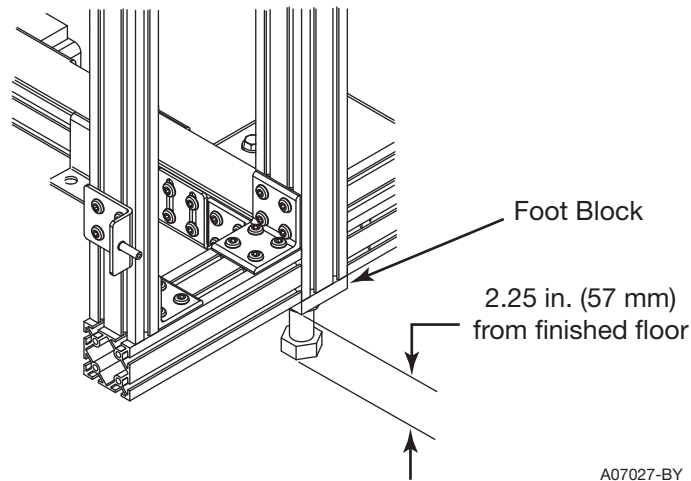


POSITIONING THE STERILIZER

To position the sterilizer:

1. Roll the sterilizer into its final location.

FIGURE 4-5. LEVELING FEET ADJUSTMENT



2. Refer to Figure 4-5. From the underside of the sterilizer frame, rotate the leveling feet in the frame until the bottom of the foot block is approximately 2.25 inches (57 mm) above the floor (all four corners).

**NOTE**

This clearance is required for the installation of the kick panel(s) and optional cabinet panels.

3. **IMPORTANT:** If seismic anchorage is required by local codes:
 - a. Position the seismic anchoring brackets on the leveling feet (see Figure 4-25 on page 4-28).
 - b. Using the brackets as a template, mark the holes.
 - c. Raise the leveling feet and roll the sterilizer out of the way.
 - d. Drill the holes and install the anchoring devices into the floor. See the seismic anchorage drawing on page 6-10.
 - e. Roll the sterilizer back into position.
 - f. Lower the leveling feet.



NOTE

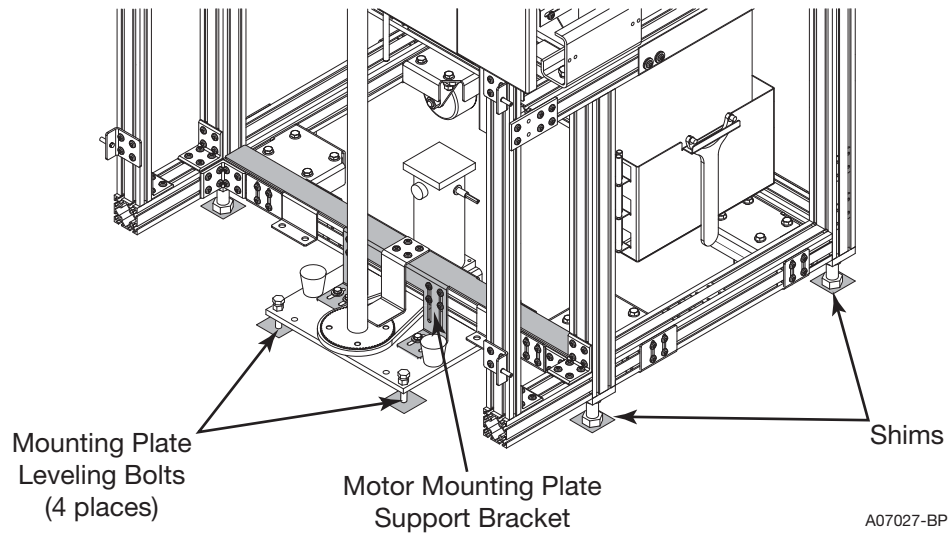
If a loading car and transfer carriage will be used to load goods in the sterilizer, the tracks inside the chamber must match the height of the top plate of the transfer carriage (see Figure 4-6 on page 4-6).

The standard height of the top plate of transfer carriages is 31.50 in. (800 mm) above the floor. Because a transfer carriage may be used with several sterilizers, adjust the sterilizer height to match the transfer carriage.

FIGURE 4-6. TRANSFER CARRIAGE HEIGHT



A07026-BR

FIGURE 4-7. MOTOR MOUNTING PLATE LEVELING BOLTS

4. Turn down the mounting plate leveling bolts until the plate is supported by the floor.
5. Loosen the hardware that secures the motor mounting plate support bracket to the extrusion.

**CAUTION**

When tightening the mounting plate support bracket hardware, do not exceed 15 ft-lbs maximum torque. Do not use a powered screwdriver to tighten the screws.

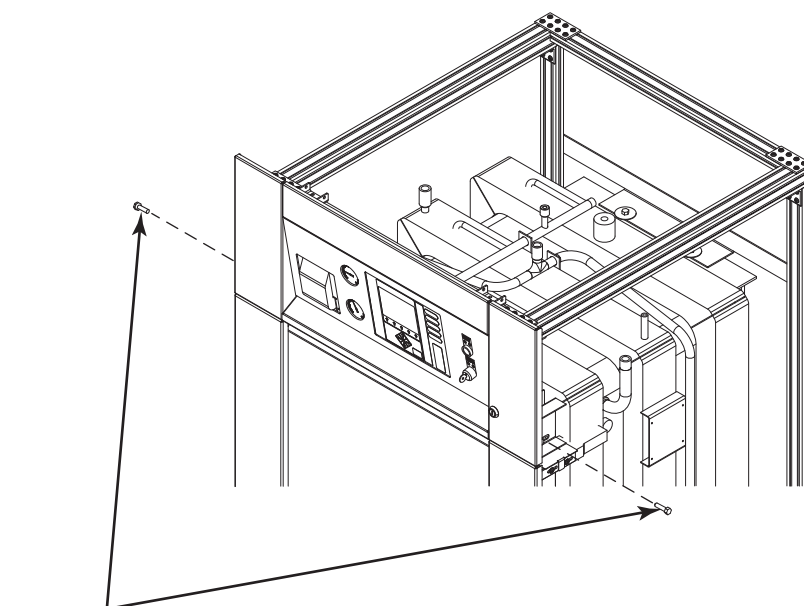
6. Using a torque driver, tighten the screws on the mounting plate support bracket to 10 ft-lbs (minimum).

**WARNING**

POSSIBILITY OF INJURY AND DAMAGE TO THE EQUIPMENT: *Be sure the door motor mounting plate is supported by the floor before removing the shipping bolts.*

7. Remove the shipping bolts as shown in Figure 4-8.

FIGURE 4-8. REMOVING THE SHIPPING BOLTS

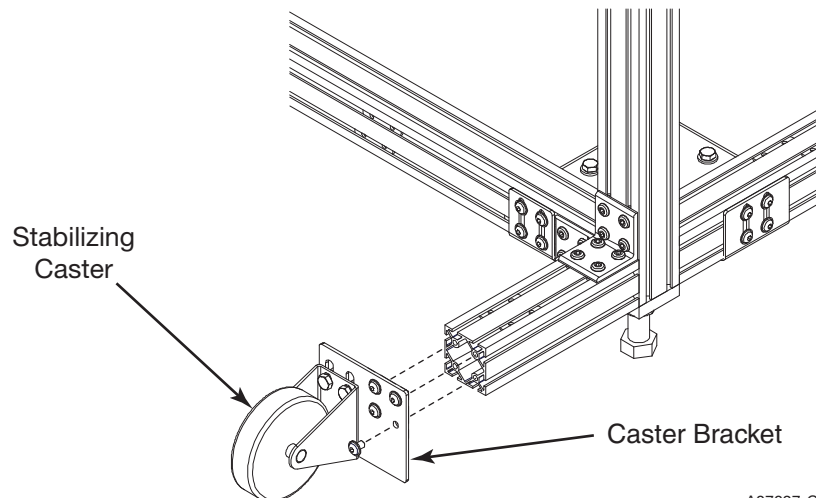


Shipping Bolts

A07027-BT

8. Remove the two stabilizing casters from the front of the sterilizer (26 in. length units only).

FIGURE 4-9. REMOVING THE STABILIZING CASTERS



Stabilizing
Caster

Caster Bracket

A07027-CL

LEVELING THE STERILIZER CHAMBER

Once the sterilizer is positioned, check the alignment and leveling of the chamber. The unit must be level to run properly and align with the loading carts.



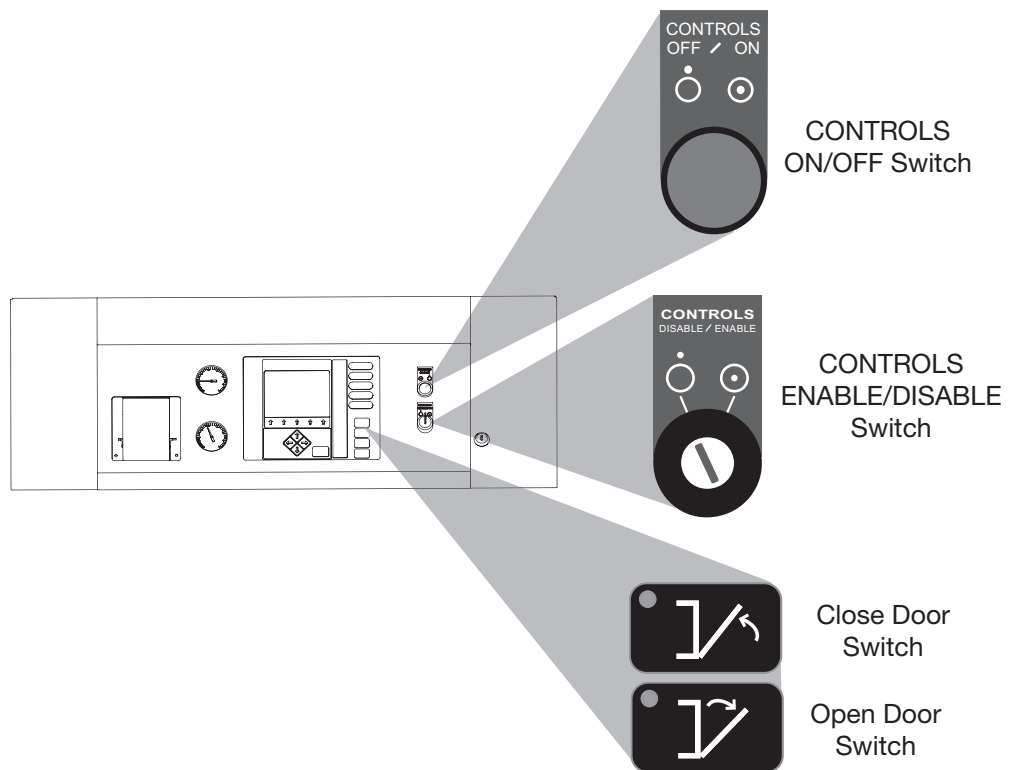
NOTE

If power is available, connect the power to the input terminals inside the sterilizer Power Box and use the Open Door switch to open the door. Otherwise, the door must be opened by manually turning the lift screw. Use a spanner wrench to turn the pulley wheel at the base of the lift screw.

To level the sterilizer chamber:

1. If power is available:
 - a. Connect 115 Vac to 1TB in Power Box 1A (see “Connecting the Electrical Power” on page 4-22).
 - b. Turn ON the Power Box circuit breaker.

FIGURE 4-10. STERILIZER CONTROL PANEL



A07027-BU

- c. Press the CONTROLS ON/OFF switch on the Control Panel.
- d. Turn the CONTROLS DISABLE/ENABLE switch to the ENABLE position.
- e. Press the Open Door switch.

If power is not available:

- a. Insert the spanner wrench into the holes in the pulley wheel.

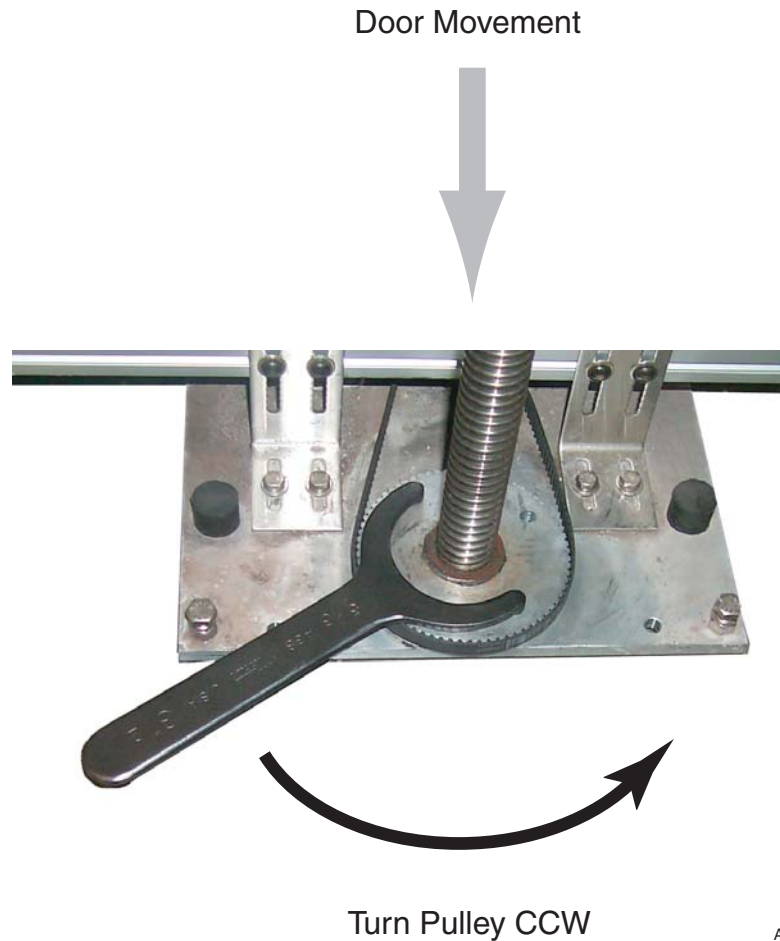


NOTE

The spanner wrench is located in a holder on the right side of the sterilizer frame.

- b. Rotate the pulley wheel counterclockwise (CCW) until the door is low enough to place a level inside the chamber.

FIGURE 4-11. MANUALLY OPENING THE STERILIZER DOOR



A07026-D

2. Refer to Figure 4-12 on page 4-12. Place the level vertically against the chamber wall and adjust the feet to level the chamber from side-to-side. The minimum distance from the finished floor must be a minimum of 2.25 inches (57 mm) as shown in Figure 4-5 on page 4-5.
3. Place the level vertically against the door gasket headring and adjust the feet to level the chamber from front-to-back. The minimum distance from the finished floor must be a minimum of 2.25 inches (57 mm) as shown in Figure 4-5 on page 4-5.

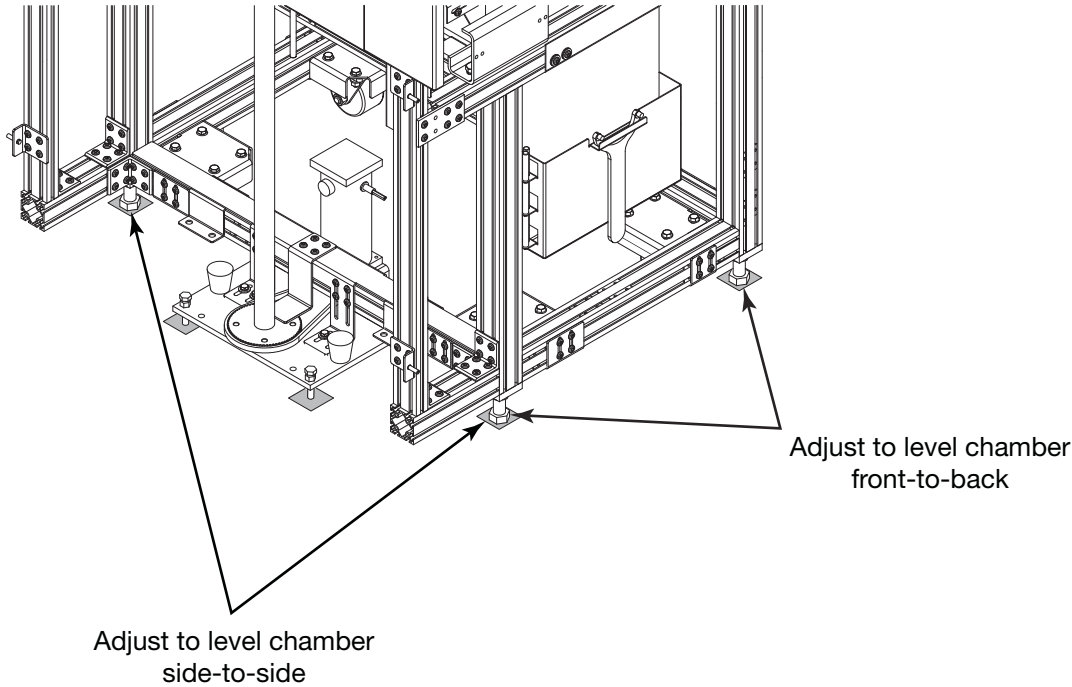
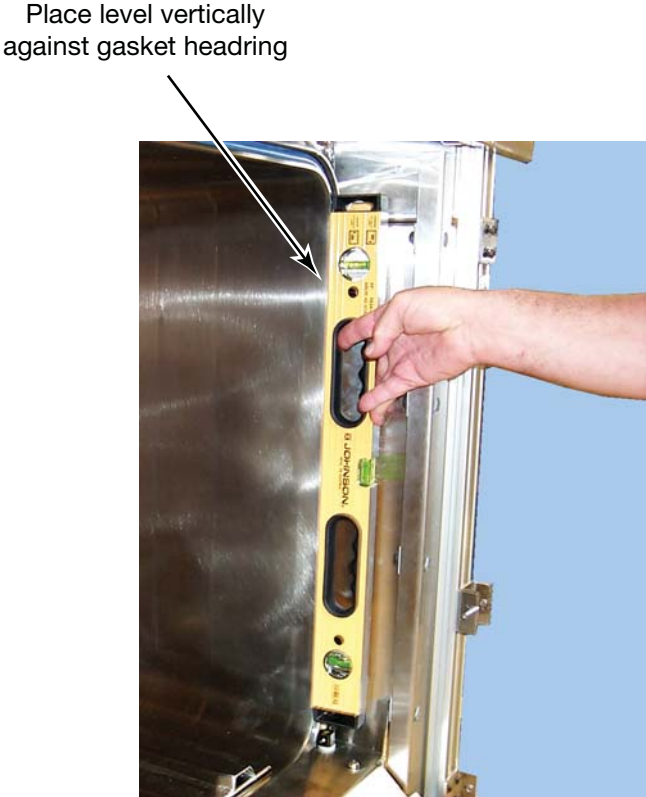


NOTE

If a loading car and transfer carriage will be used with the sterilizer, be sure to maintain the proper height adjustment shown in Figure 4-6 on page 4-6.

4. Once the chamber is level, tighten the locknuts on the leveling feet.
5. Raise the sterilizer door by pressing the Close Door switch or turning the lift screw pulley clockwise.

FIGURE 4-12. LEVELING THE STERILIZER CHAMBER



A07027-L

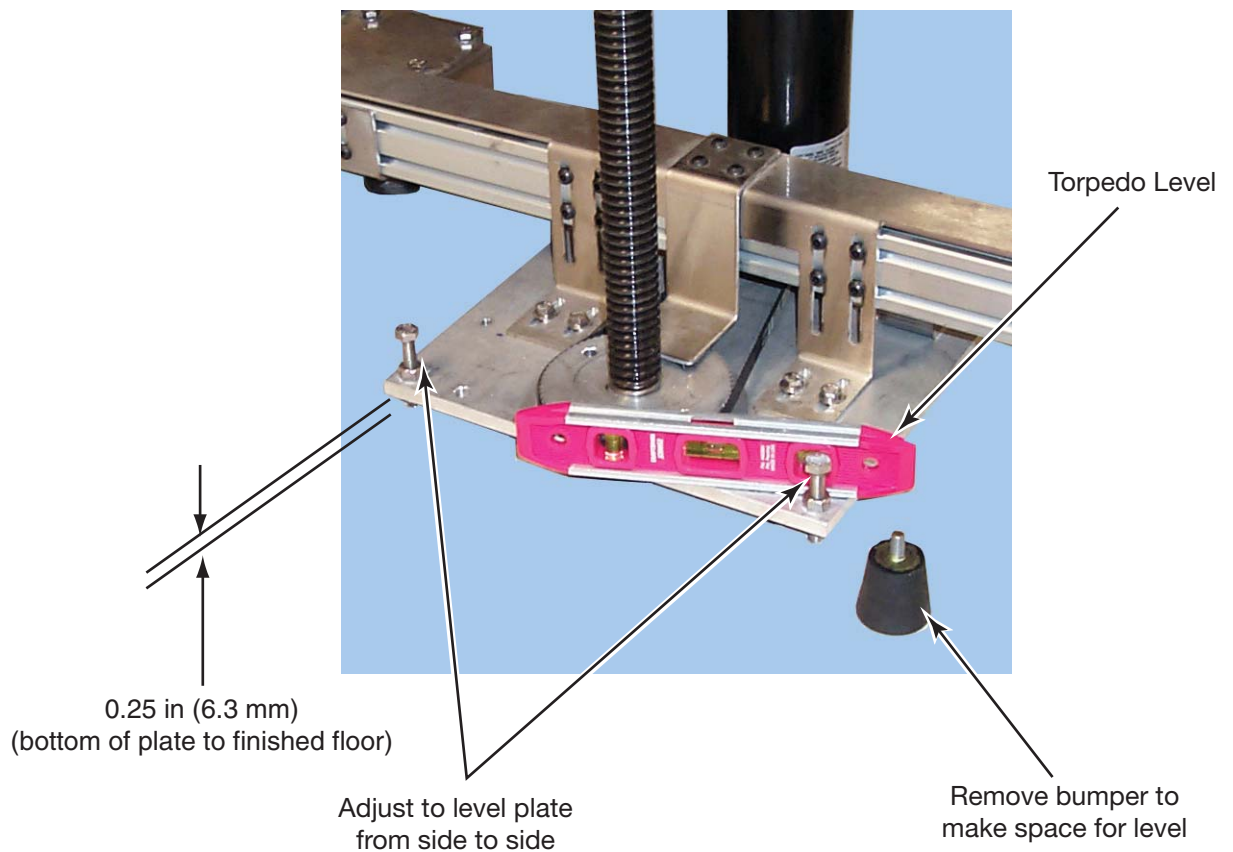
LEVELING THE STERILIZER DOOR

Once the sterilizer is leveled, check the alignment of the door mechanism to ensure that the door is level and the position of the mounting plate has not changed.

To level the sterilizer door:

1. Remove the rubber bumpers from the door motor mounting plate. This will allow a 9 inch torpedo level to be placed on the mounting plate.
2. Adjust the mounting plate leveling bolts until the bottom of the plate is 0.25 in. (6.3 mm) above the finished floor.

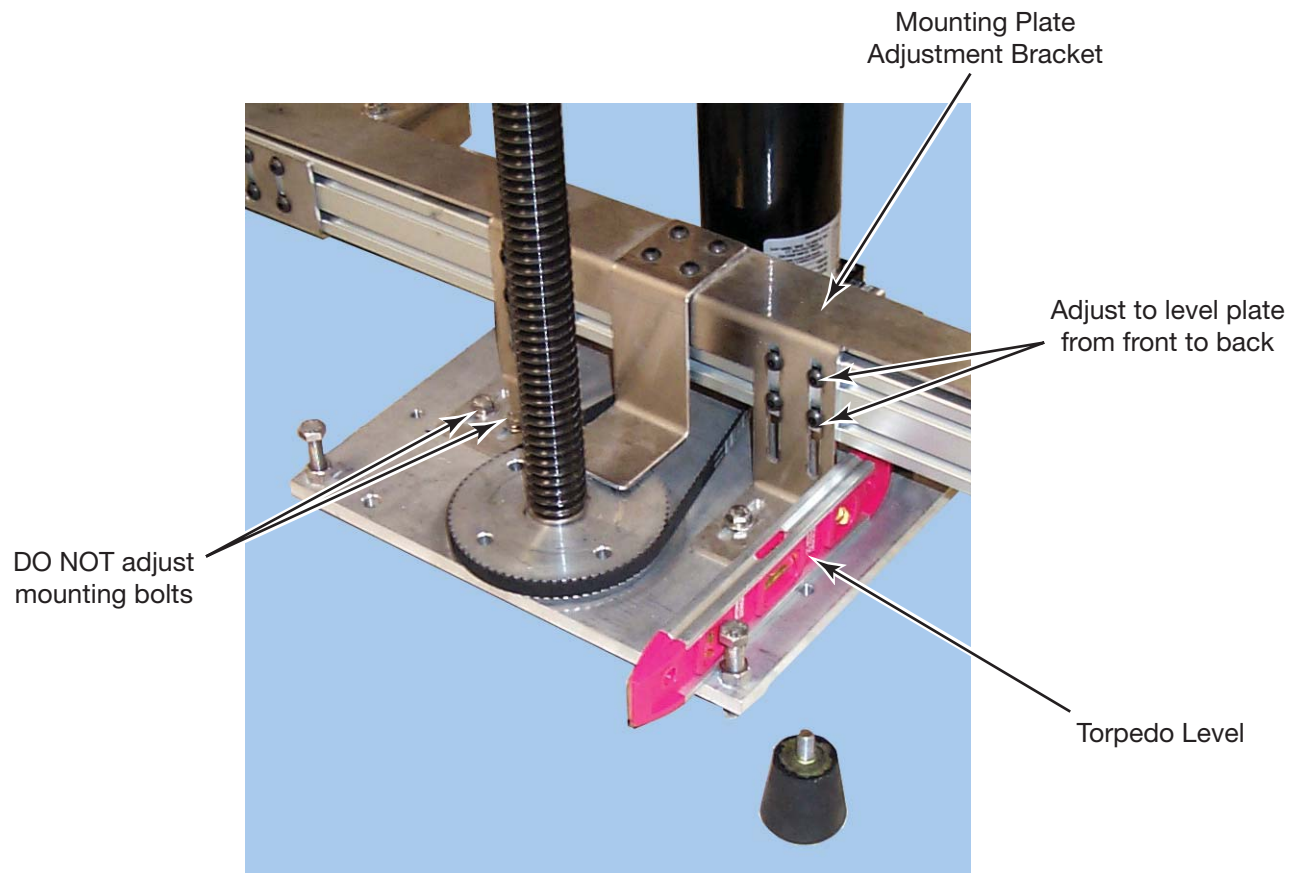
FIGURE 4-13. MOUNTING PLATE LEVELING BOLTS



A07027-BE

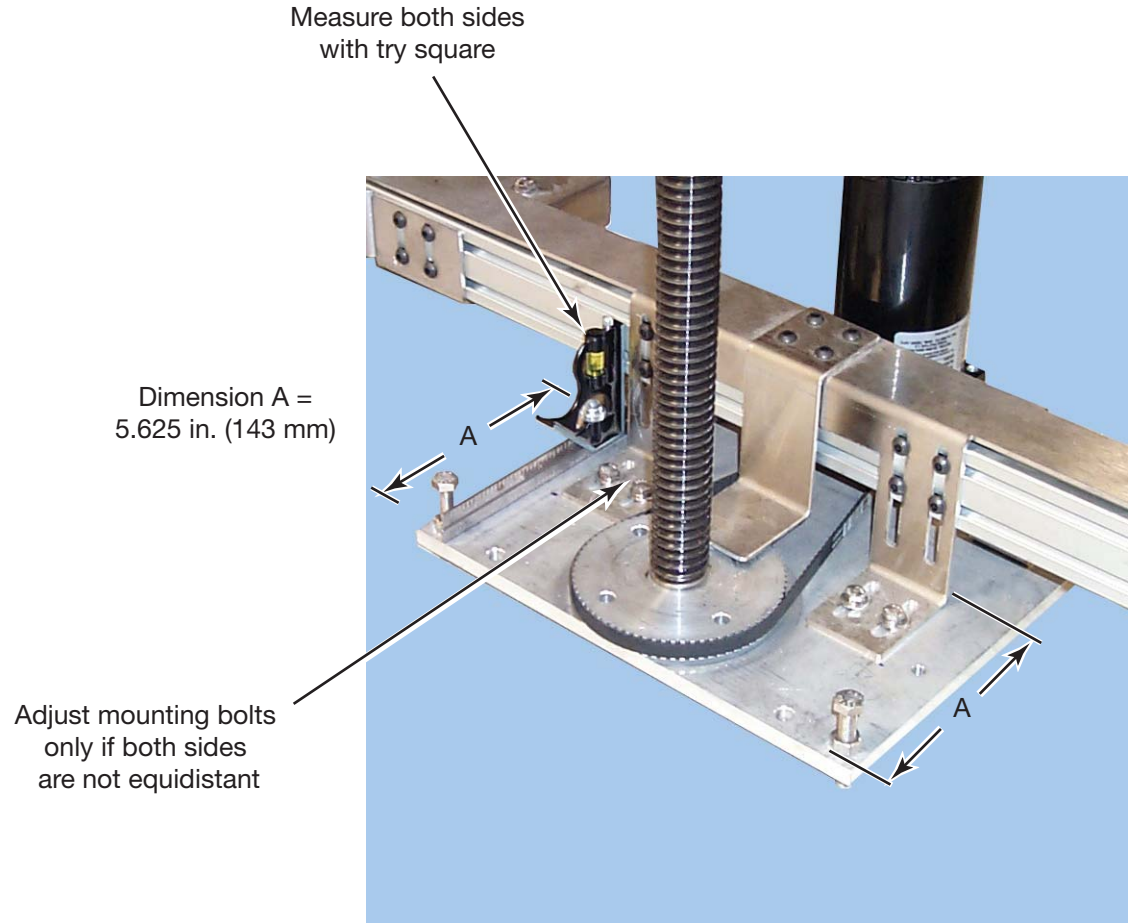
3. Position a level as shown in Figure 4-13 and check that the mounting plate is level from side to side.

FIGURE 4-14. MOUNTING PLATE ADJUSTMENT BRACKETS



A07027-AR

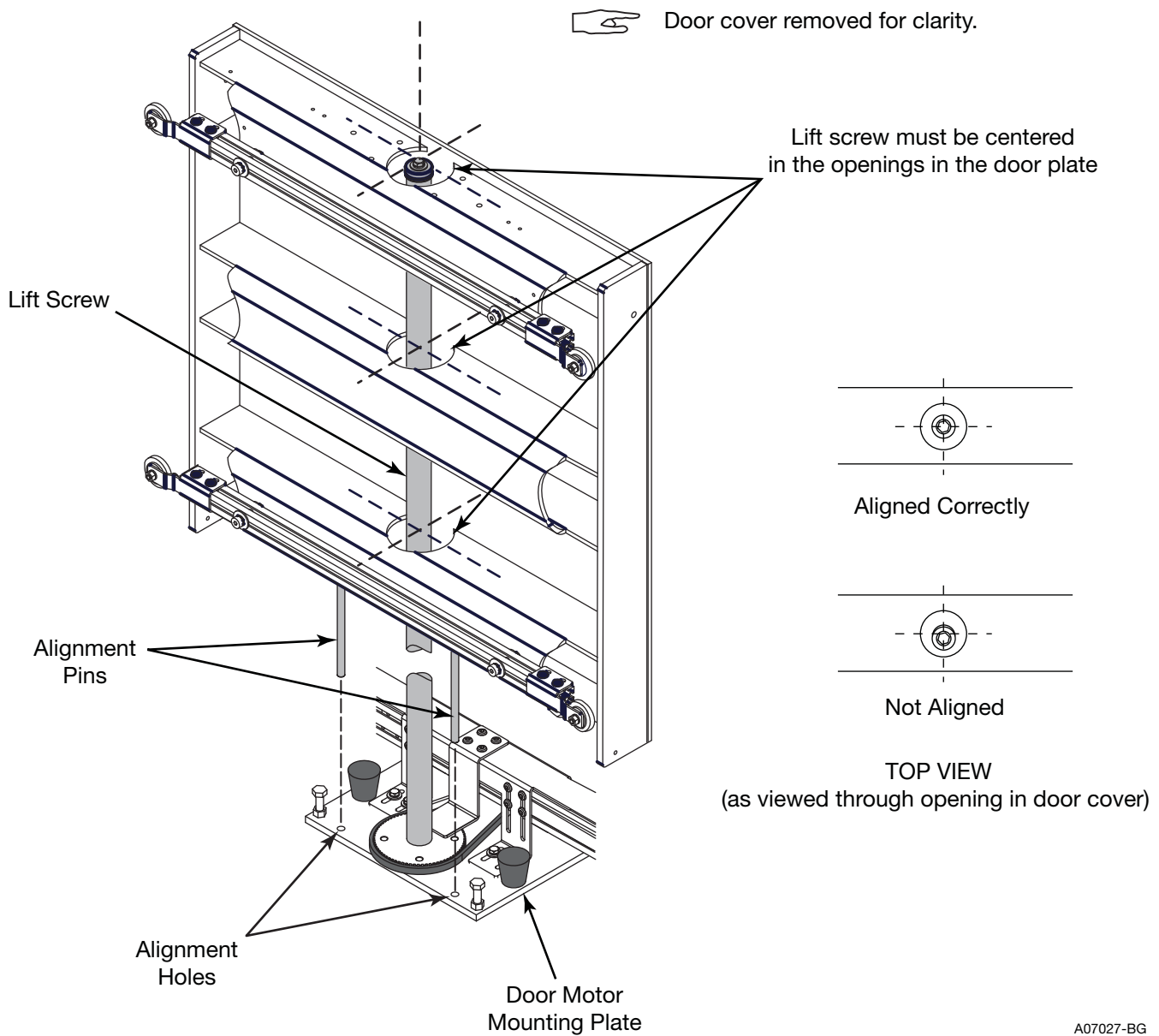
4. Position the level as shown in Figure 4-14 and check that the mounting plate is level from front to back.
5. Adjust the mounting bracket as required to level the plate from front to back.

FIGURE 4-15. CHECKING FOR SQUARENESS

A07027-CC

6. Refer to Figure 4-15. Using a try square (or tape measure), measure the distance from the front edge of the mounting plate to the bend in the mounting bracket. Confirm that this dimension is 5.625 in. (143 mm). Measure both the left and right sides of the mounting plate.
7. If the measurements on the left and right side of the mounting plate are equidistant, the mounting plate is square and no adjustment is required. If not, loosen the bolts that secure the mounting bracket to the plate and adjust the mounting plate as required.
8. If not already installed, insert the alignment pins into the threaded holes in the bottom of the door plate.
9. Lower the door.

FIGURE 4-16. LIFT SCREW ALIGNMENT



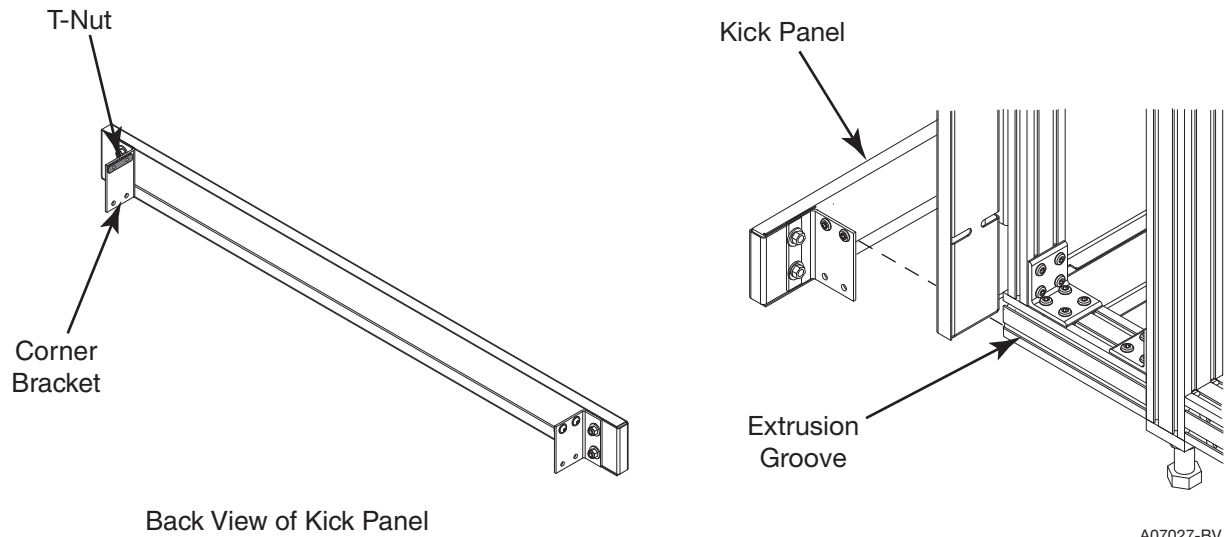
A07027-BG

10. Refer to Figure 4-16. Check that the alignment pins are centered over the holes in the mounting plate.
11. Remove the plug from the top of the door cover and check that the lift screw is vertically centered in the openings in the door plate.
12. Readjust the mounting plate as required and check for levelness from side to side and back to back.
13. Remove the alignment pins and store them on the sides of the holder for the spanner wrench.
14. Reinstall the rubber door bumpers.

INSTALLING THE KICK PANEL

To install the kick panel:

1. Loosen the screws that secure the T-nuts to the kick panel corner bracket.

FIGURE 4-17. INSTALLING THE KICK PANEL

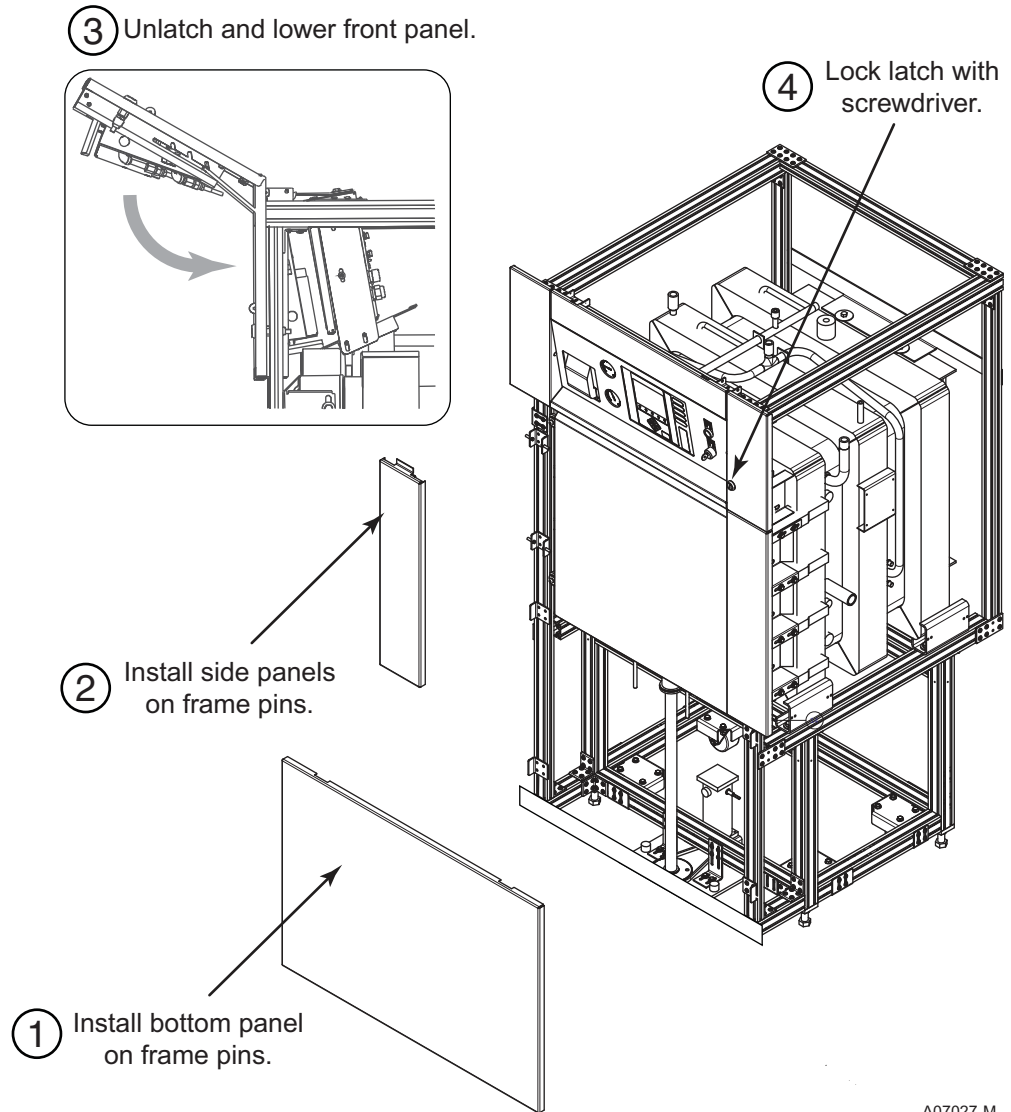
2. Align the kick panel so that the T-nuts will slide into the lower groove of the extrusion on each slide.
3. Slide the kick panel over the extrusions until the front of the panel is flush with the panel above.
4. Tighten the screws that secure the T-nuts to the kick panel corner bracket.

RE-ATTACHING THE FRONT PANELS

To re-attach the front panels:

1. Place the bottom panel back onto the unit, aligning the holes in the panel with the frame pins.

FIGURE 4-18. STERILIZER FRONT PANELS



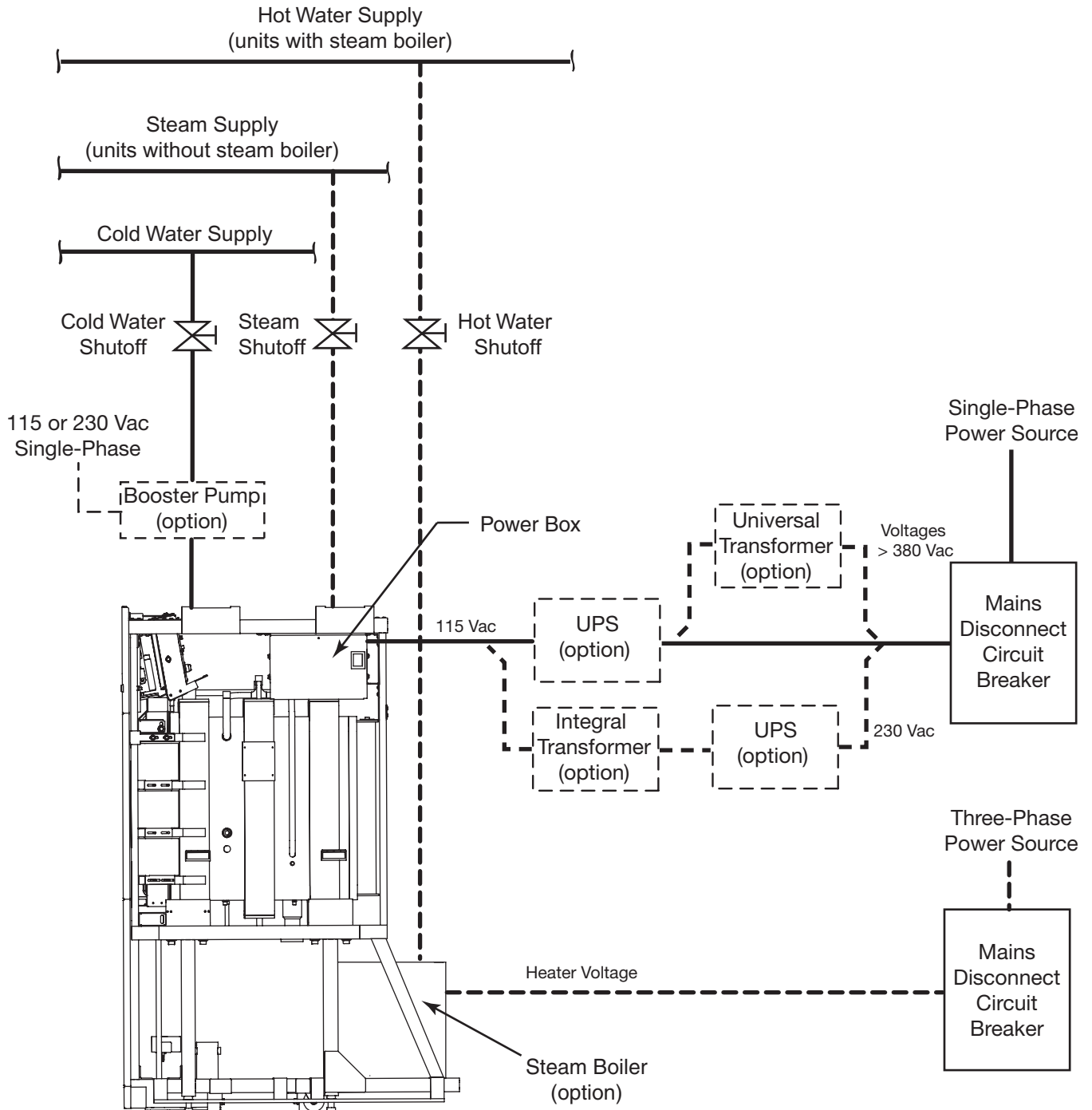
A07027-M

2. Place the pin at the bottom of one of the side panels into the slot in the base panel and slide the side pin through the slot on the panel until the panel is secure. Repeat the process for the other side.
3. Lower the prop rods on the top panel and close the panel.
4. Use a screwdriver to turn the latch to the locked position.

UTILITY REQUIREMENTS

The sterilizer requires steam, cold water and electrical supplies as specified on the roughing-in drawing. Sterilizers with an integral boiler require a hot water supply (instead of steam) and three-phase electrical supply as well.

FIGURE 4-19. UTILITY CONNECTIONS



A07027-BW

CONNECTING THE PLUMBING

All service connections must conform with local codes. Refer to the roughing-in drawing (see Figure 6–1, Sheet 5 on page 6–6) for supply line pipe sizes and specification requirements for the installation site.

STERILIZER CONNECTIONS

Connect the steam and cold water supplies to the sterilizer. The supply line connections on the sterilizer are tagged for identification.

Getinge recommends installing pressure gauges in the steam and water supply lines to monitor the incoming pressure. Since some sterilizer malfunctions may be caused by inadequate steam or water pressure, pressure gauges in the supply lines are useful in servicing the sterilizer.

Route the sterilizer drain line to the customer-supplied drain point. Getinge recommends installing a flexible coupling at the drain line connection point.

Connect the outlet of the pressure relief valve to an appropriate discharge location per local codes.



NOTE

Use unions on the steam, cold water, drain, and pressure relief valve connections.

The steam supply to the sterilizer is to meet the steam quality specification on the roughing-in drawing. Install a thermodynamic steam trap or MP-106 Steam Conditioning Package in order to meet the steam requirement for the sterilizer. See “Steam Supply Quality” on page 7–3 for more information.

BOOSTER PUMP (OPTION)

If the sterilizer uses a booster pump, refer to “Booster Pump Package” on page 5–9 for installation details. The booster pump must be installed before a cold water supply is connected to the sterilizer.

STEAM BOILER (OPTION)

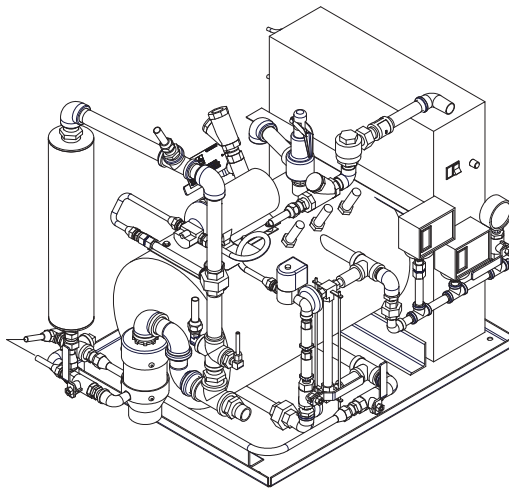
Two models of steam boilers are used with the 600 Series sterilizer:

- GTS-30A on 26 in. length units.
- CAS-45A on 39 in. and 51 in. length units.

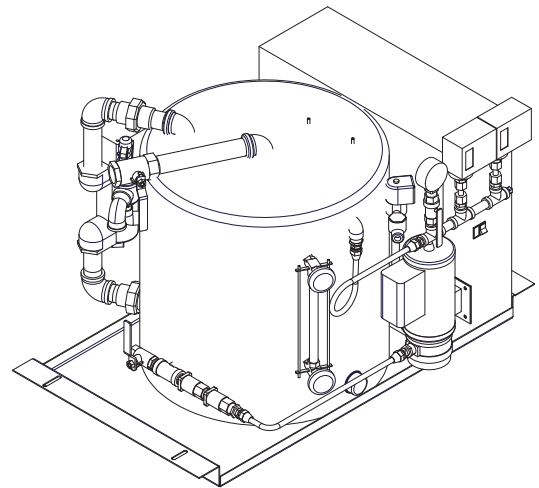
If the sterilizer has an integral steam boiler, refer to “Steam Boiler” on page 5–2 for installation details.

**NOTE**

The hot water supply is to meet the water quality specification on the roughing-in drawing. A water treatment system may need to be installed in order to meet the feedwater requirement for the boiler. See “Steam Boiler Feedwater Quality” on page 7–5 for more information.

FIGURE 4-20. STEAM BOILER MODELS

GTS-30A STEAM BOILER
(horizontal boiler tank)



CAS-45A STEAM BOILER
(vertical boiler tank)

WS-0414

CONNECTING THE ELECTRICAL POWER

It is the customer’s responsibility to complete all electrical connections in accordance with the National Electrical Code and all applicable local codes.



CAUTION

Be sure the power box circuit breaker is in the OFF position to ensure that the power supply will not energize any sterilizer components prior to performing required adjustments and testing.

ELECTRICAL SUPPLY REQUIREMENTS

A permanently-connected, dedicated electrical supply with a conveniently accessible disconnect switch (supplied by the customer) is required for each sterilizer. Where both single-phase and three-phase supplies are required, two (2) disconnect switches can be used. Disconnect switches must be located as close to each other and to the sterilizer as possible and within easy reach of the operator.

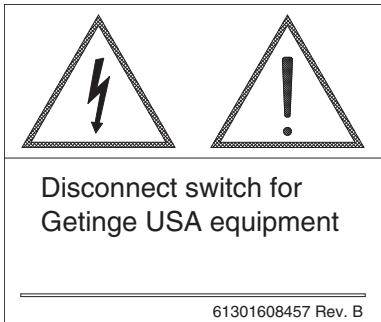


NOTE

Refer to roughing-in drawing (Figure 6–1, Sheet 5 on page 6–6) for recommended breaker/fusing.

All disconnect switches need to be properly labeled as the disconnecting devices for the specified sterilizer. Affix the Getinge USA label (part number 61301608457) supplied with the sterilizer to each disconnect switch enclosure and indicate the sterilizer ID on the label.

FIGURE 4–21. GETINGE USA LABEL



NOTE

When the only electrical supply source available to operate the control system is other than 115 Vac ±10%, 50/60Hz, single-phase, a transformer is required to provide 115 Vac for connection to the sterilizer control circuit. See “Connecting the Customer Supply” on page 4–23

CONNECTING THE CUSTOMER SUPPLY

The primary power connection procedure is dependent on the supply voltage:

- 115 Vac—power is connected to the Power Box.
See “115 Vac Installation” below.
- 230 Vac—power is connected to the factory-installed Integral Transformer which steps down the voltage to the 115 Vac required by the sterilizer. See “230 Vac Installation” on page 4–24.
- 380 Vac and above—power is connected to the Universal Transformer which steps down the voltage to 115 Vac. The Universal Transformer is installed and wired by the customer. See “Universal Transformer” on page 5–16.



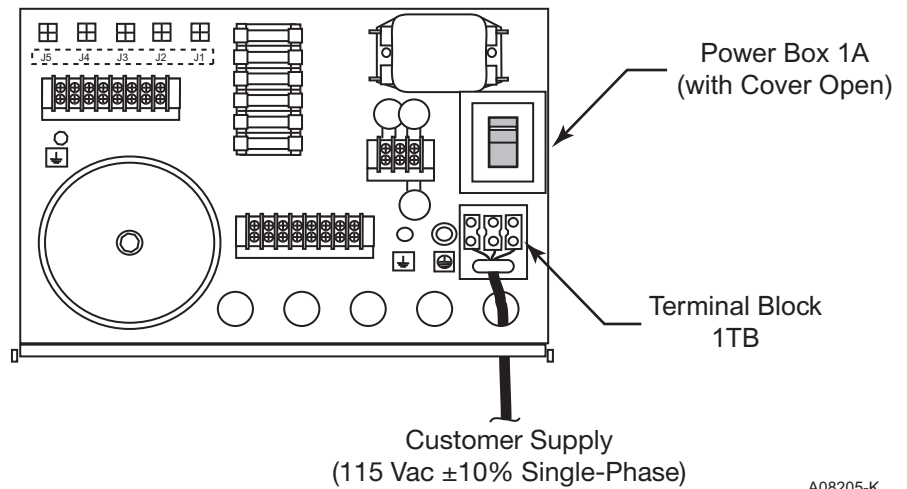
NOTE

If the sterilizer has an uninterruptible power supply (UPS), install the UPS before connecting power to the sterilizer. see “Uninterruptible Power Supply (UPS)” on page 5–18 for electrical connections.

115 VAC INSTALLATION

Connect the 115 Vac 50/60 Hz single-phase supply circuit to terminals L (hot), N (neutral), and protective ground on terminal block 1TB inside the Power Box (see Figure 4–22).

FIGURE 4-22. CONNECTING THE POWER SOURCE (115 VAC)



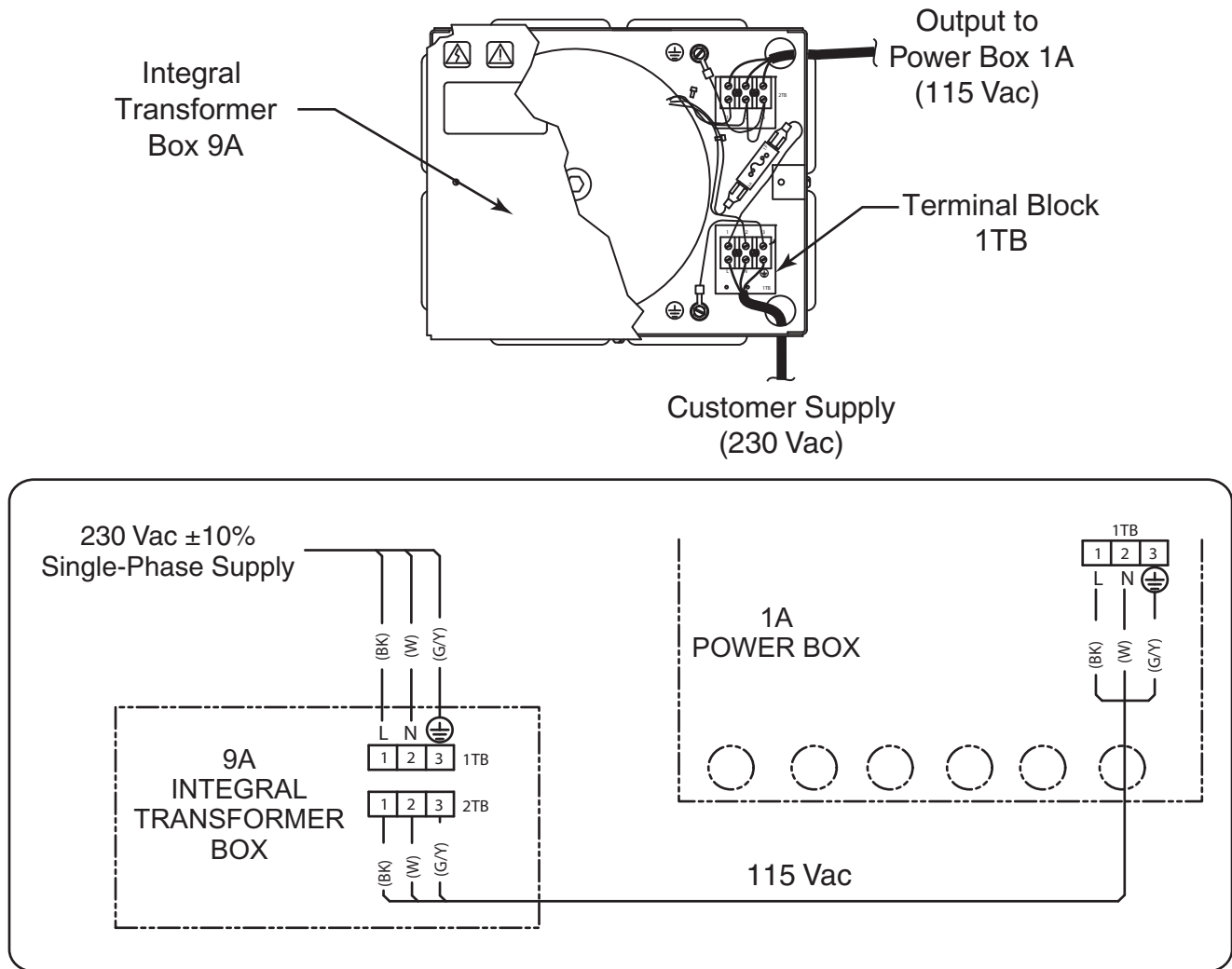
A08205-K

230 VAC INSTALLATION

Integral Transformer 9A is a factory-installed option used to step down the 230 Vac customer supply to the 115 Vac required by the sterilizer.

Connect the 230 Vac 50/60 Hz single-phase supply circuit to terminals L (hot), N (neutral), and protective ground on terminal block 1TB inside the Integral Transformer Box (see Figure 4–23).

FIGURE 4–23. CONNECTING THE POWER SOURCE (230 VAC)



A08205-H

STEAM BOILER (OPTION)

The steam boiler requires two operating voltages: 115 Vac for the controls (provided by the sterilizer) and the three-phase voltage for the heater elements. For instructions on connecting the three-phase supply, see “Connecting the Electrical Power” on page 5–4.

BOOSTER PUMP (OPTION)

The booster pump requires a separate 115 Vac or 230 Vac single-phase electrical supply to operate the pump motor. The control voltages for these options are provided by the sterilizer.

For information regarding booster pump installation, see “Connecting the Electrical Power” on page 5–14.

ANCHORING THE STERILIZER

The sterilizer is anchored to the floor with two hold-down brackets as shown in Figure 4–24 on page 4–26.



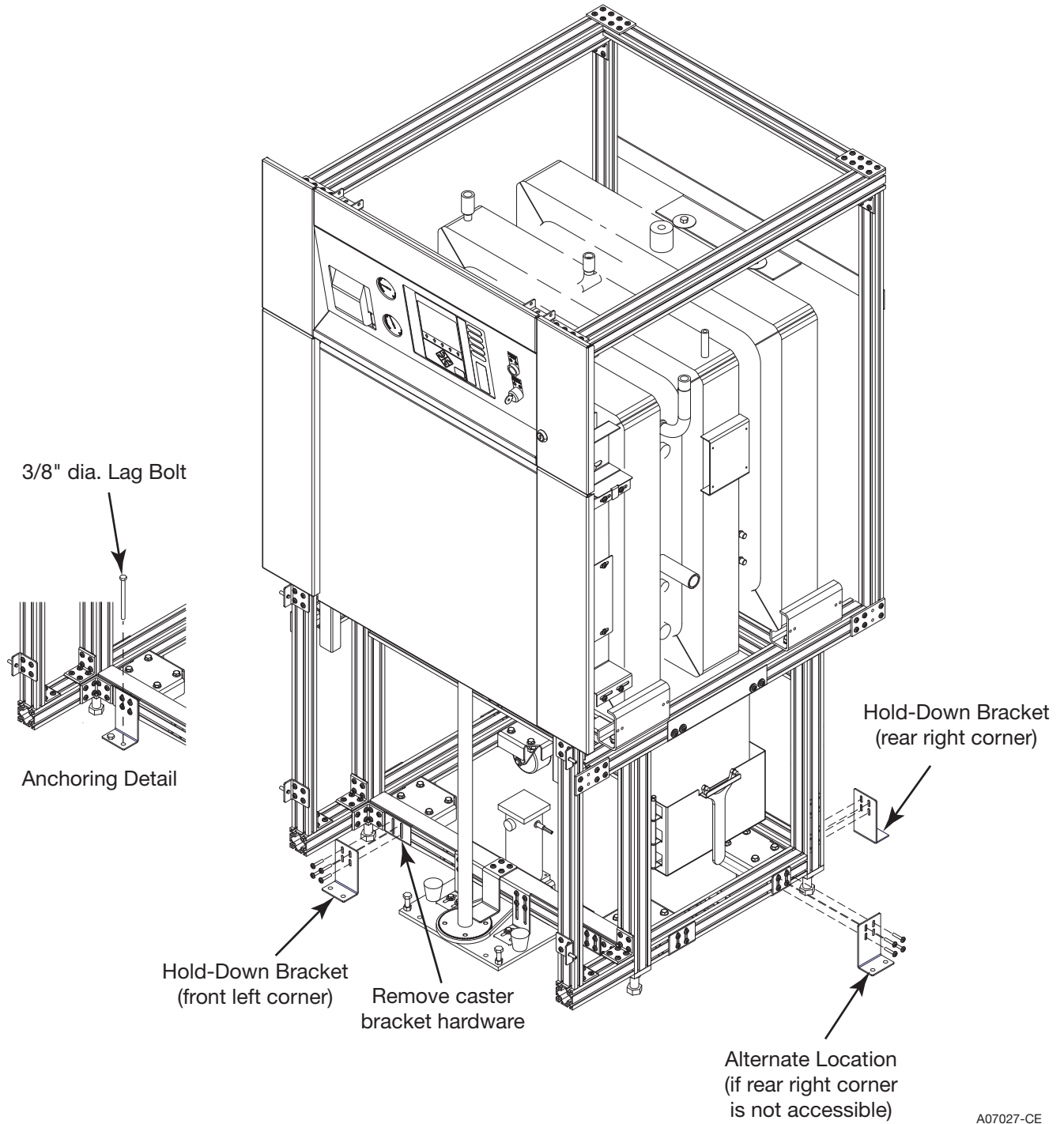
NOTE

If seismic anchoring is required by local codes, the sterilizer is anchored as described in “Installing the Seismic Anchoring Brackets” on page 4–28.

INSTALLING THE HOLD-DOWN BRACKETS

To install the hold-down brackets:

1. Remove the brackets and hardware from the small carton that was set aside during unpacking.
2. Remove the mounting screws from the front of the left front caster.
3. Using the mounting screws provided with the bracket, install the hold-down bracket.
4. Drill the mounting holes and insert the necessary anchoring devices to accept 3/8” diameter lag bolts.
5. Repeat steps 2 thru 4 for the right rear caster. If the rear of the sterilizer is not accessible, install the hold-down bracket in the alternate location shown in Figure 4–24 on page 4–26.

FIGURE 4-24. HOLD-DOWN BRACKETS

INSTALLING THE SEISMIC ANCHORING BRACKETS

If seismic anchorage is required per local codes, all four leveling feet must be anchored (see Figure 4–25). Four bolts per corner are required to meet seismic anchoring codes.

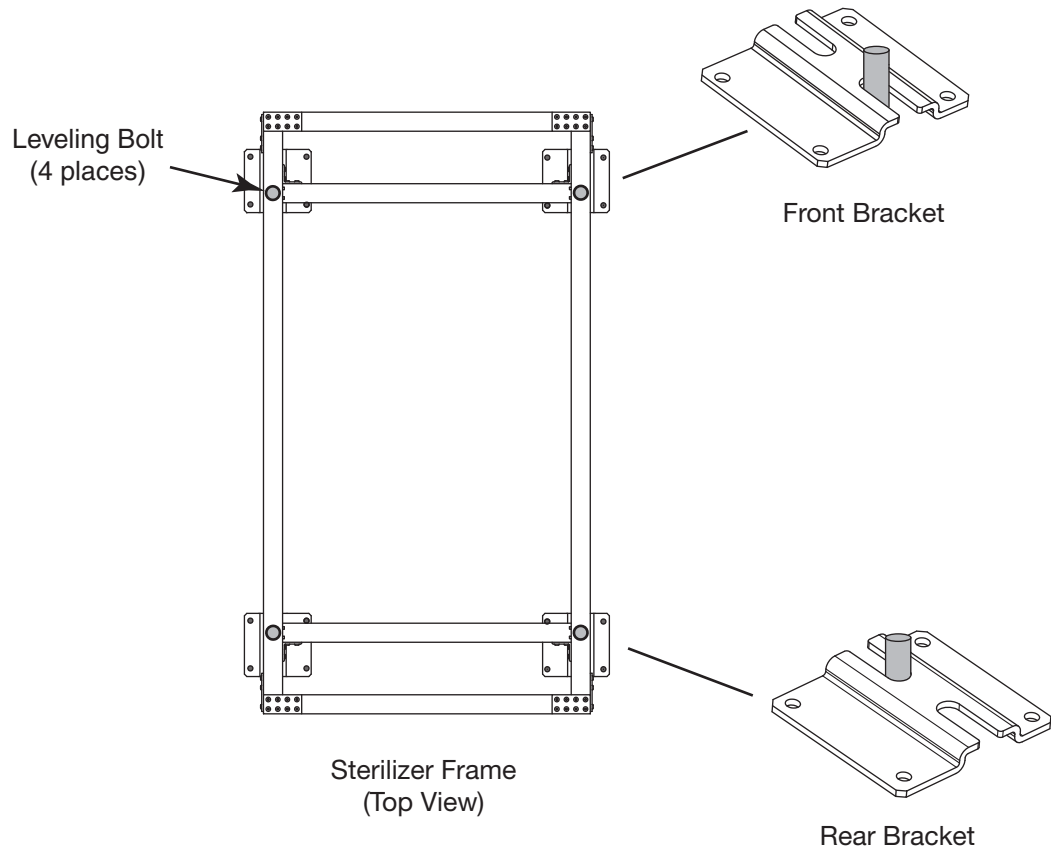


NOTE

The anchoring specifications recommended in this manual (see seismic anchorage drawing on page 6–10) are in compliance with seismic anchoring codes set forth by the state of California.

It is recommended that permanent anchoring of the sterilizer to the floor be done after the unit has been checked out by a qualified Getinge USA service representative.

FIGURE 4–25. SEISMIC ANCHORING BRACKETS



A07027-T2



NOTE

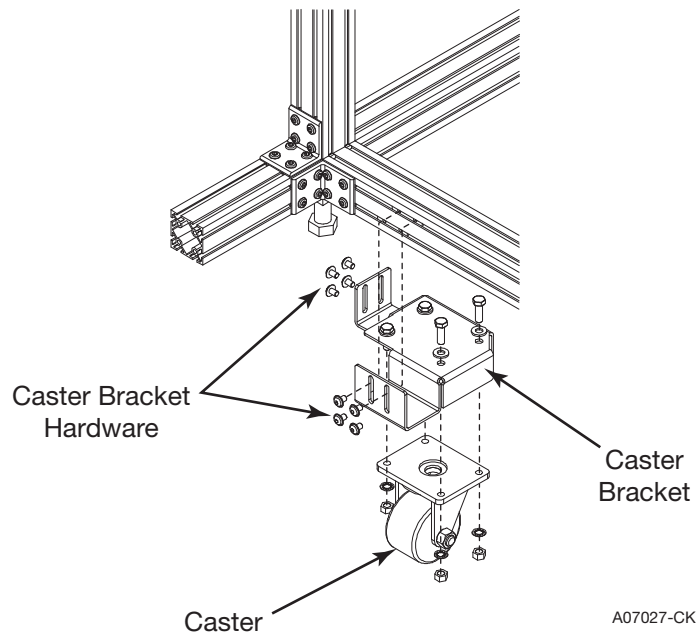
The holes cannot be drilled with the sterilizer in place because of interference with the sterilizer frame. If the holes are not already drilled, it will be necessary to mark the holes, move the sterilizer out of the way, drill the holes, then move the sterilizer back to its location.

The casters must be removed to allow the seismic anchorage brackets to be anchored in four places.

To install the seismic anchoring brackets:

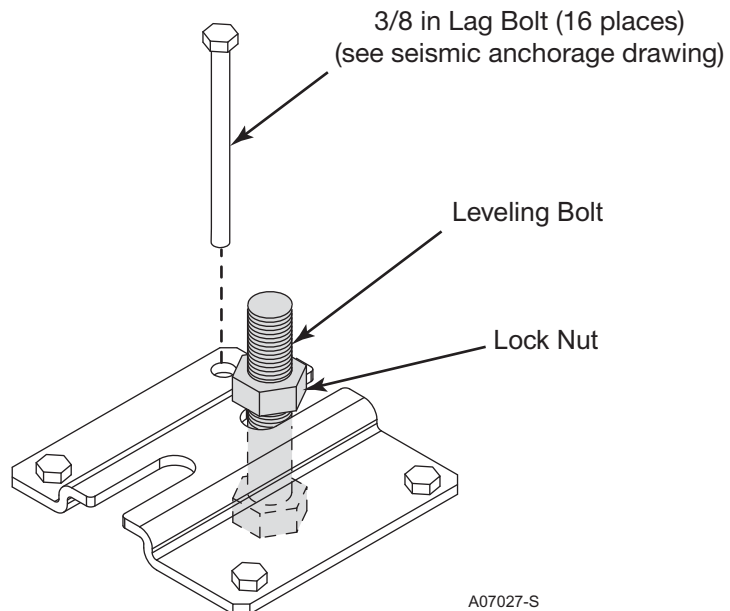
1. Remove the casters:
 - a. Remove the four bolts that secure the caster to the caster bracket.
 - b. Remove the mounting screws that secure the caster brackets to the sterilizer frame.

FIGURE 4-26. REMOVING THE CASTERS



2. Position the seismic anchoring bracket on the leveling feet as shown in Figure 4-27.

FIGURE 4-27. SEISMIC ANCHORING BRACKET INSTALLATION



3. Insert the lag bolts through the bracket and into the anchoring devices in the floor.
4. Tighten the lock nut against the anchoring bracket.

INSTALLING THE INTERIOR EQUIPMENT

INSTALLING THE RACK AND SHELVES

The interior equipment package includes a left-hand shelf support, right-hand shelf support, and two shelves. One or two additional shelves are available as an option.

To install the rack and shelves:

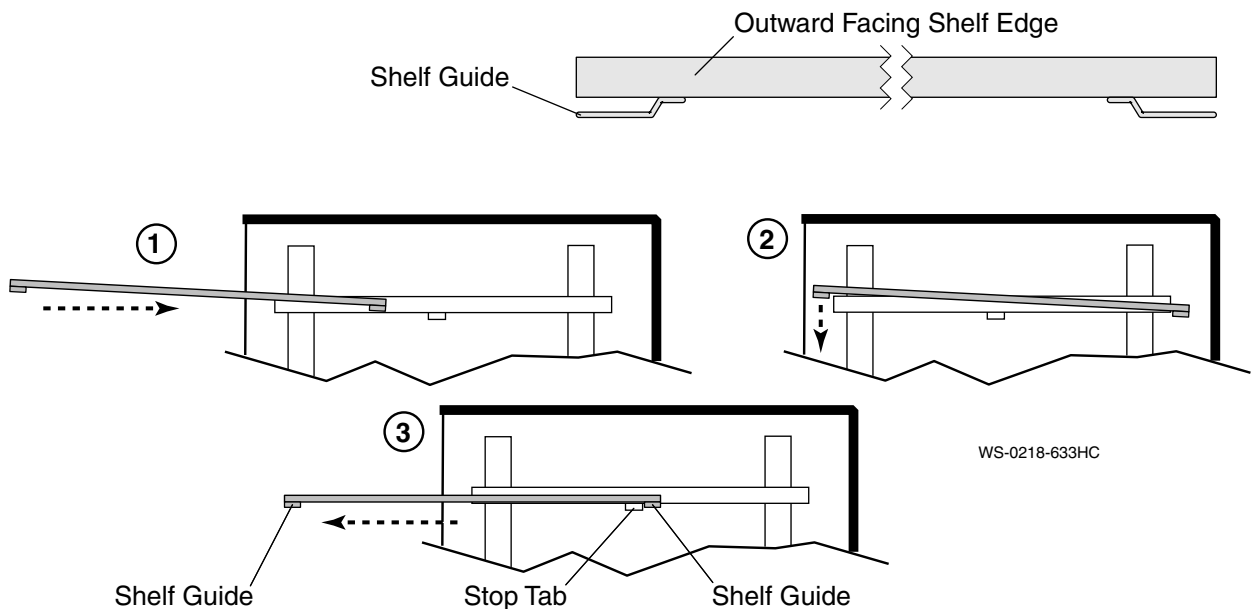
1. Align the holes in the uprights of the shelf support with the mounting studs on the side wall of the chamber.
2. Secure the shelf support to the mounting studs with the hardware provided.
3. Repeat the procedure for the other shelf support.



NOTE

On 26-inch units, check that the shelf edge facing out has shelf guides.

FIGURE 4-28. INSTALLING A SHELF



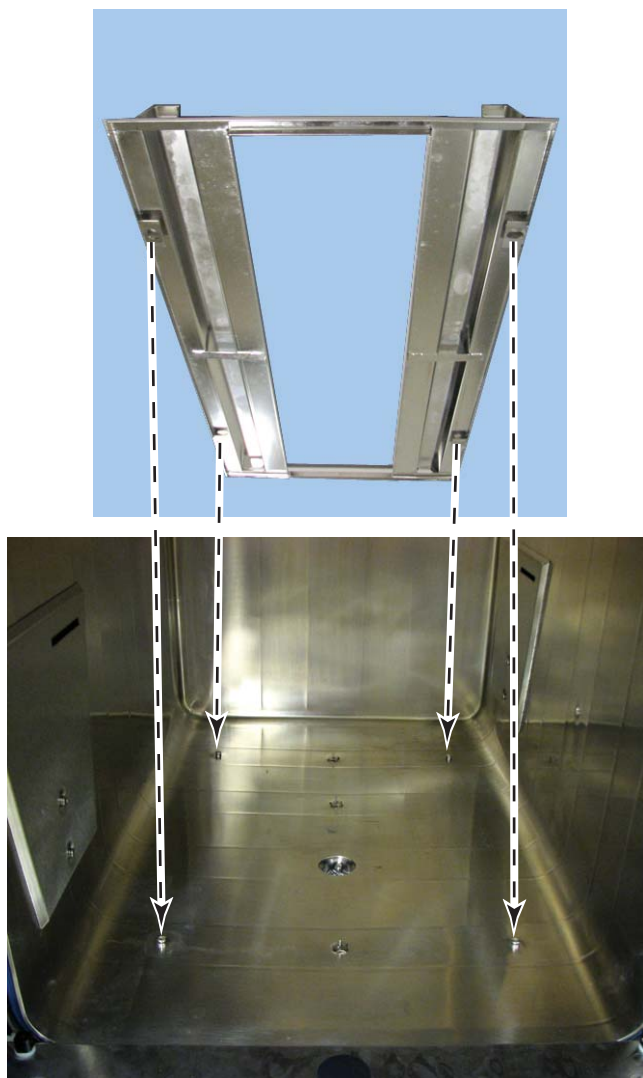
4. Set the shelf on top of the shelf support brackets.
5. Slide the shelf back until the back edge drops down at the end of the support bracket.
6. Pull the shelf forward until the shelf guide contacts the stop tab on the shelf support to be sure it is properly installed. Then slide the shelf to the back of the chamber.

INSTALLING THE LOADING CAR TRACK

To install the loading car track:

1. Align the holes in the bottom of the track with the mounting studs on the floor of the chamber.
2. When the track is correctly aligned, with the mounting studs, it will drop into place.

FIGURE 4-29. ALIGNING THE TRACK WITH THE MOUNTING STUDS



A07027-CF

SECTION 5 OPTIONAL EQUIPMENT

INTRODUCTION

This section includes installation instructions for the following options:

- Steam Boiler (GTS-30A or CAS-45A)—see page 5-2.
- Booster Pump Package—see page 5-9.
- Universal Transformer—see page 5-16.
- Uninterruptible Power Supply (UPS)—see page 5-18.
- Water-Saver System (MP-129F)—see page 5-22.
- Water Treatment System—see page 5-25.
- Cabinet Package—see page 5-26.

STEAM BOILER

SPECIFICATIONS

The following utility connections are required for sterilizers with an integral steam boiler:

- Manual shutoff valve, strainer, and pressure gauge in the hot water supply line.
- Separate three-phase electrical service for the heating circuit.

For detailed specifications on electrical requirements, hot water (pressure, flow, and quality), and connection sizes, refer to the roughing-in drawing (Figure 6–1, Sheet 5 on page 6–6).

BOILER MODELS

The steam boiler used varies based on the chamber length of the sterilizer. Refer to the following table for the proper boiler unit.

TABLE 5-1. AVAILABLE STEAM BOILERS

CHAMBER LENGTH	STEAM BOILER
26 in.	GTS-30A
39 in.	CAS-45A
51 in.	

CONNECTING THE PLUMBING

The steam boiler is shipped mounted to the sterilizer with the steam output and drain line connected to the sterilizer. The hot water supply and pressure relief valve vent are supplied by the customer.



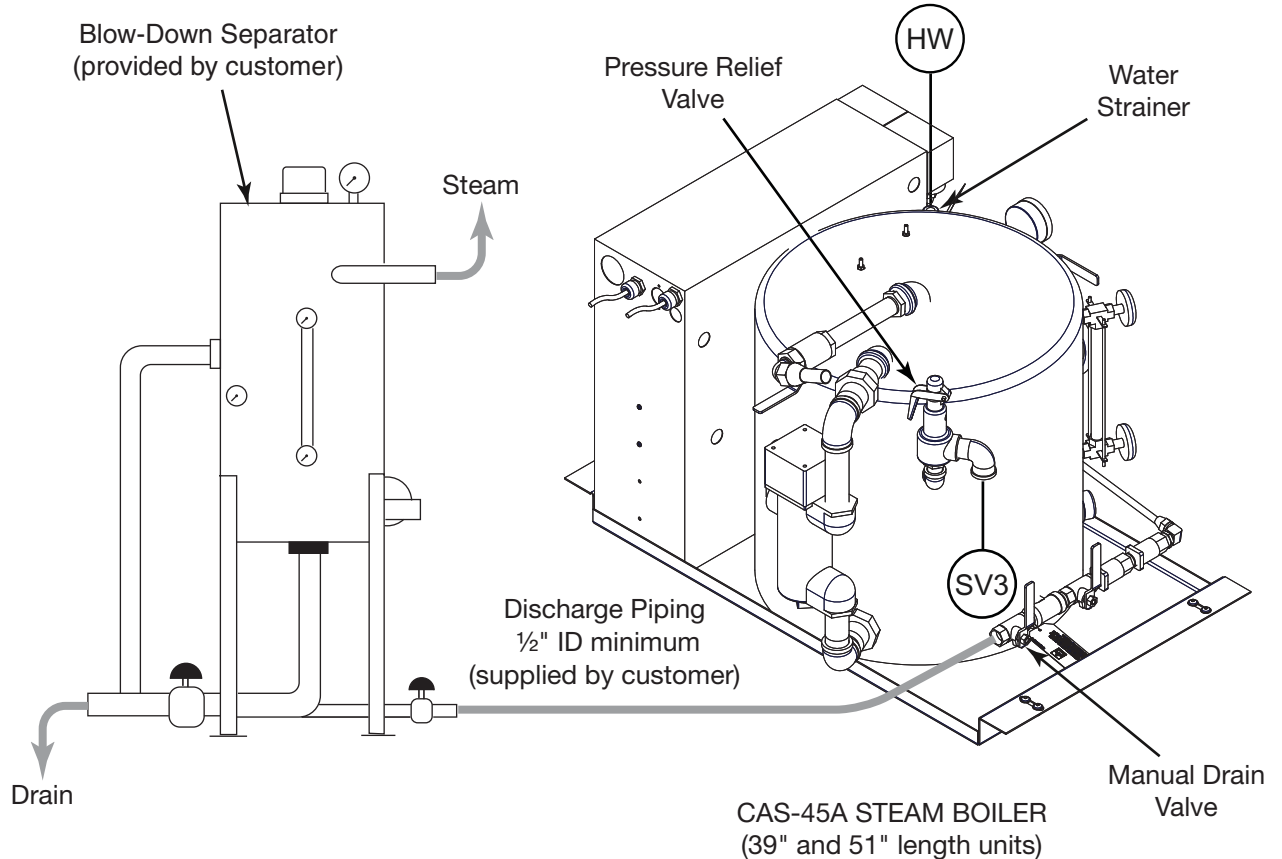
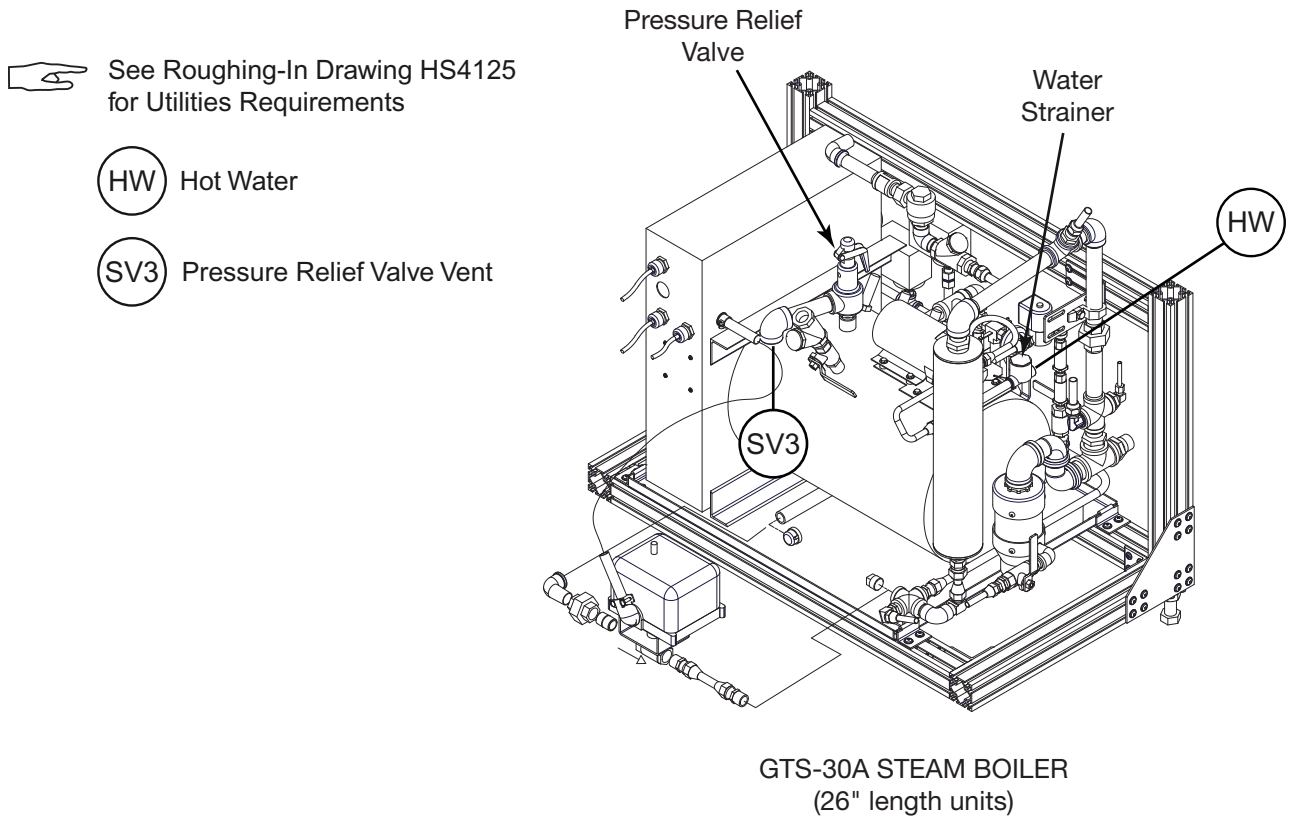
NOTE
Use unions on the hot water supply and pressure relief valve connections.

Recommendation: Pipe the pressure relief valve to a vented manifold outside the equipment service area per ASME code.

- To connect the plumbing to the boiler (see Figure 5–1):
1. Connect the hot water (HW) supply to the water strainer on the boiler.
 2. Connect the outlet of the pressure relief valve (SV3) to a vent system.
 3. If the boiler is a CAS-45A, connect the blow-down discharge line to a separator tank (provided by customer).



NOTE
The ES-18/24/30/36/48 Blow-Down Separation Tank (Getinge PN 530957) is suitable for this application.

FIGURE 5-1. STEAM BOILER PLUMBING CONNECTIONS

A07027-P1

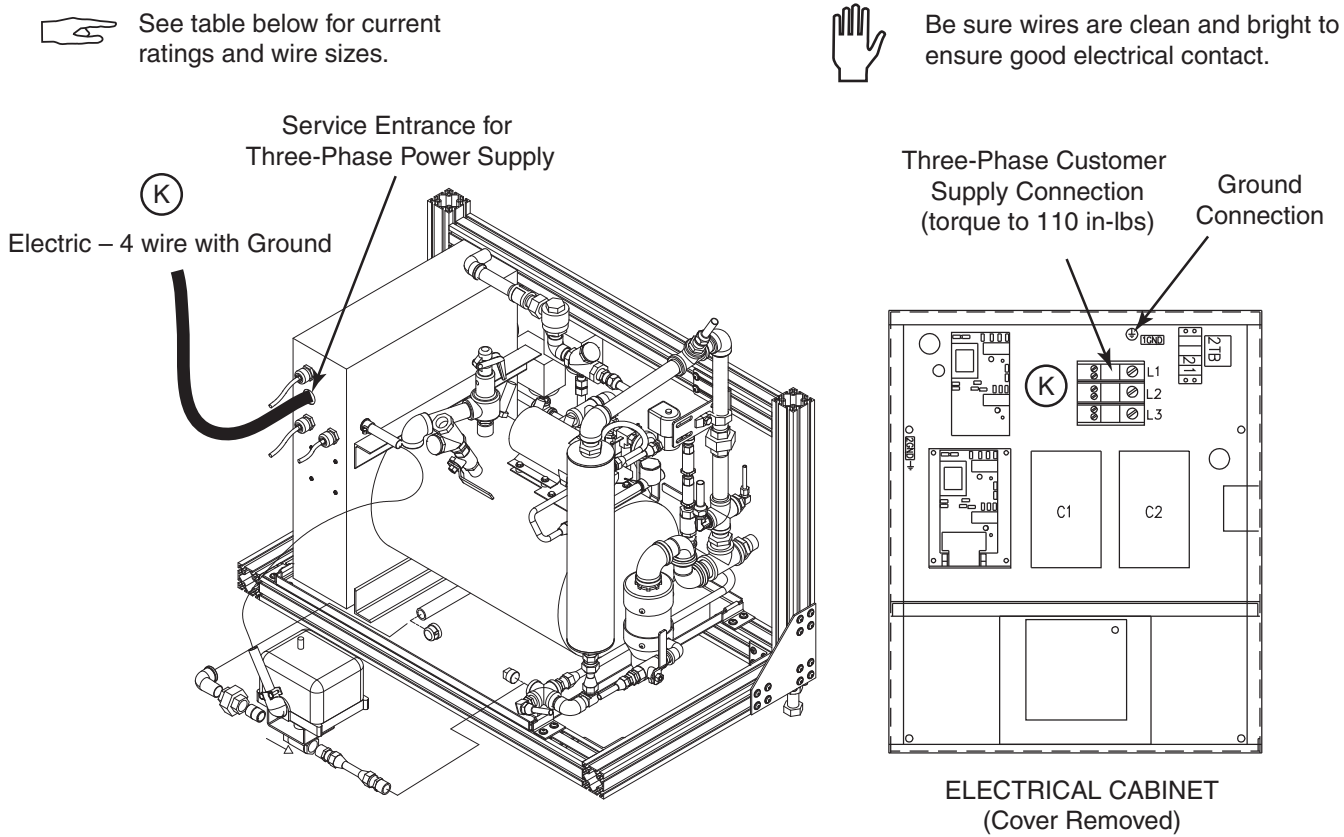
CONNECTING THE ELECTRICAL POWER

The steam boiler requires a separate three-phase electrical service for the heating circuit. The sterilizer provides the 115 Vac required for the boiler control circuits. Refer to the roughing-in drawing (Figure 6–1 on page 6–2) for electrical specifications.

To connect the three-phase electrical supply to the steam boiler:

- 1. Remove the access cover from the steam boiler cabinet.
- 2. Refer to Figure 5–2 (GTS-30A) or Figure 5–3 on page 5–5 (CAS-45A). Connect L1, L2, and L3 to the three-phase terminal. Torque the terminals to 110 in-lbs.
- 3. Connect the ground wire to the ground terminal. The ground terminal is located adjacent to the three-phase terminal.

FIGURE 5–2. GTS-30A STEAM BOILER ELECTRICAL CONNECTIONS



VOLTAGE	CURRENT	POWER	WIRE SIZE (90°C Copper)	CONDUIT SIZE
208V	83.3 A	30 KW	3 AWG	1¼"
240V	72.2 A	30 KW	4 AWG	1"
480V	36.1 A	30 KW	8 AWG	¾"
600V	28.8 A	30 KW	10 AWG	¾"

A07027-CJ



NOTE
The 208 Vac version of the CAS-45A has a fuse box mounted on the right side of the electrical cabinet. The customer three-phase connection is routed through six 100A fuses before it is connected to the heating element contactors. For all other voltages, the customer three-phase connection is routed to the heating element contactors.

FIGURE 5-3. CAS-45A STEAM BOILER ELECTRICAL CONNECTIONS



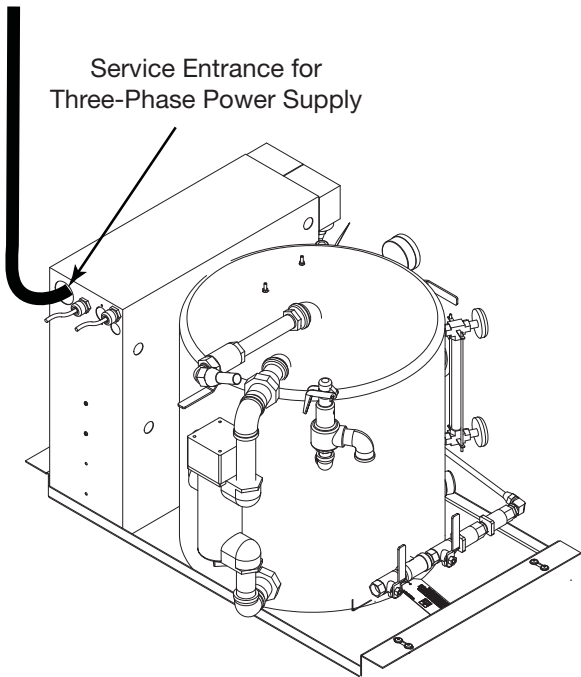
See table below for current ratings and wire sizes.



Be sure wires are clean and bright to ensure good electrical contact.

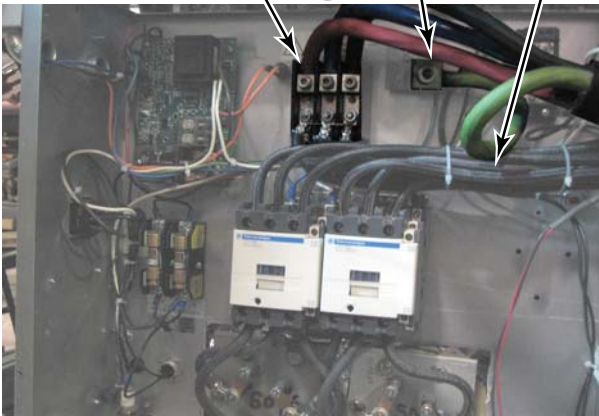
(K)

Electric – 4-wire with ground



Three-Phase Customer Supply Connection (torque to 110 in-lbs.)
Ground Connection
Wiring to Fuse Box (208 Vac model only)

(K)



VOLTAGE	CURRENT	POWER	WIRE SIZE (90°C Copper)	CONDUIT SIZE
208V	125.1 A	45 KW	2 AWG	1 1/4"
240V	108.4 A	45 KW	3 AWG	1 1/4"
480V	54.2 A	45 KW	8 AWG	3/4"
600V	43.4 A	45 KW	8 AWG	3/4"

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CHECKING THE HEATER CIRCUIT CONNECTIONS



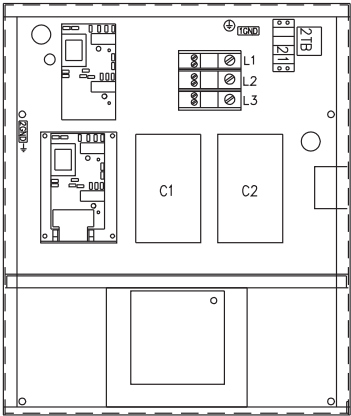
CAUTION

IMPORTANT: The element flange bolts, element terminals, contactor terminals and customer three-phase supply terminals must be tightened to the specifications shown in Figure 5-4 on page 5-7 (GTS-30A) or Figure 5-5 on page 5-8 (CAS-45A).

To check the heater circuit connections for tightness:

1. Check the torque of the three-phase supply terminals. Tighten connections to 110 in-lbs.
2. Check the torque of the contactor terminals. Tighten connections to 45 in-lbs.
3. Check the torque of the heating element terminals. Tighten terminals to 20 in-lbs.
4. Check the torque of the heating element flange bolts. Tighten the bolts to 22 ft-lbs in the sequence shown in Figure 5-4 and Figure 5-5.

FIGURE 5-4. GTS-30A BOILER TORQUE SPECIFICATIONS

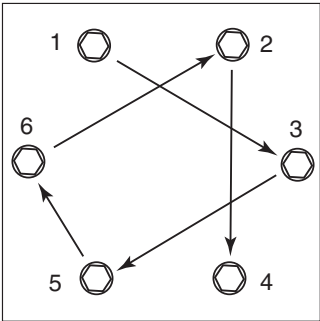


ELECTRICAL CABINET

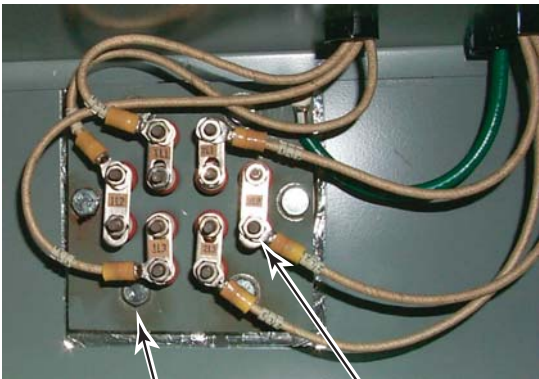


Three-Phase Supply Terminals
Torque to 110 in-lbs

Contactor Terminals
Torque to 45 in-lbs



FLANGE BOLT TIGHTENING SEQUENCE
(Heating elements not shown for clarity)

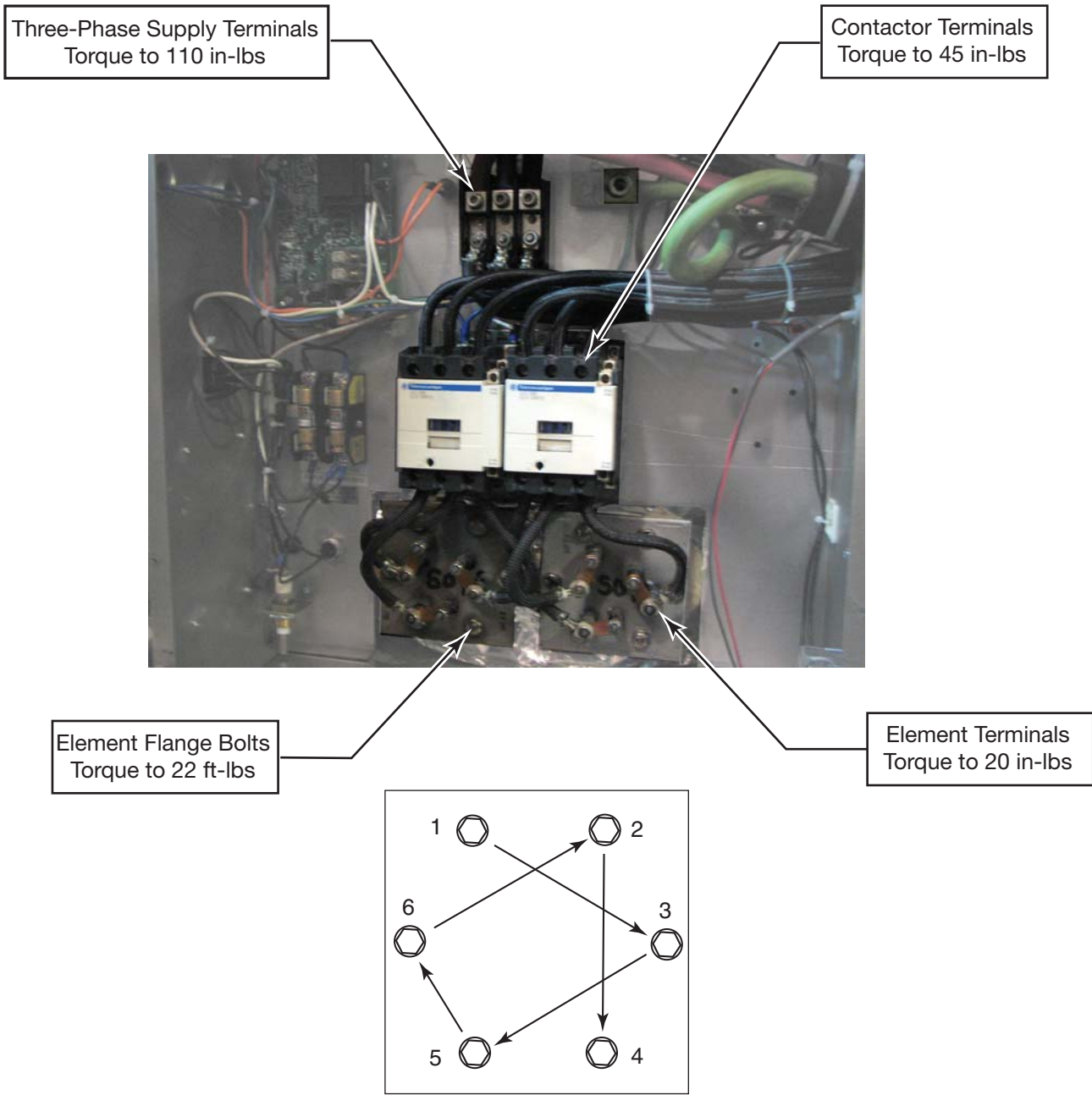


Element Terminals
Torque to 20 in-lbs

Element Flange Bolts
Torque to 22 ft-lbs

CB-19

FIGURE 5-5. CAS-45A BOILER TORQUE SPECIFICATIONS



A07027-BX

BOOSTER PUMP PACKAGE

A booster pump package is available for sterilizer installations where the cold water supply pressure is at least 30 psig dynamic but less than 45 psig dynamic. When energized, the pump increases the cold water supply pressure to the sterilizer, providing the necessary pressure required for normal sterilizer operation (see Figure 6–1, Sheet 5 on page 6–6).



NOTE

The booster pump must be installed before connecting the cold water supply to the sterilizer.

TYPICAL INSTALLATION

The customer must provide a location for installing the pump and junction box as well as fastening hardware for mounting the pump and junction box.

The following plumbing connections (provided by the customer) are required:

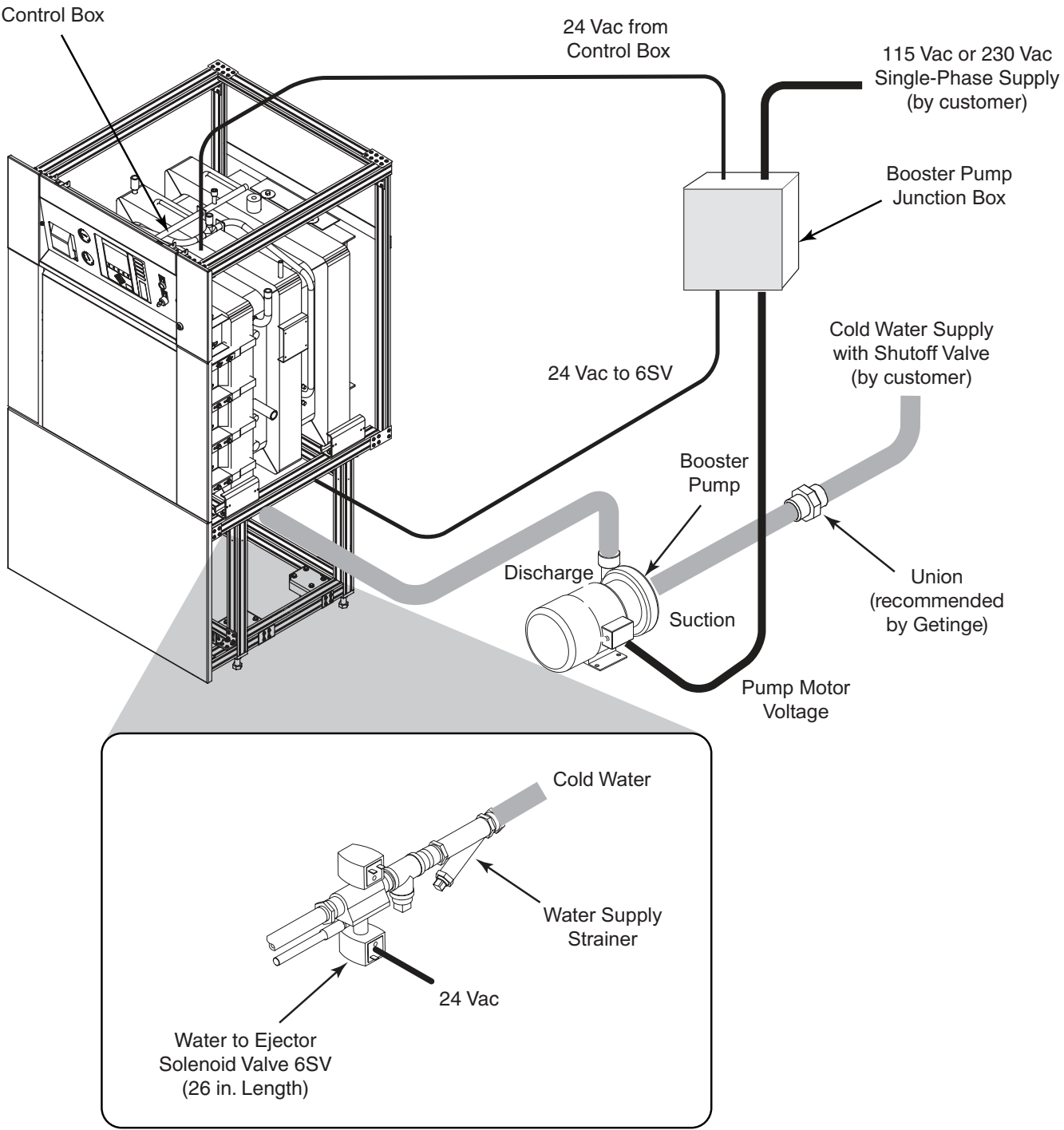
- a plumbing connection between the discharge orifice of the booster pump and the water supply inlet orifice (i.e., strainer) of the sterilizer. This connection must include a pressure gauge.
- a plumbing connection between the suction orifice of the booster pump and the customer's water supply (a union is recommended for this connection).
- a shutoff valve in the water supply line at the sterilizer site.

The following electrical connections (provided by the customer) are required:

- Electrical supply as indicated on the roughing-in drawing.
- Electrical connection to the booster pump junction box per code requirements.

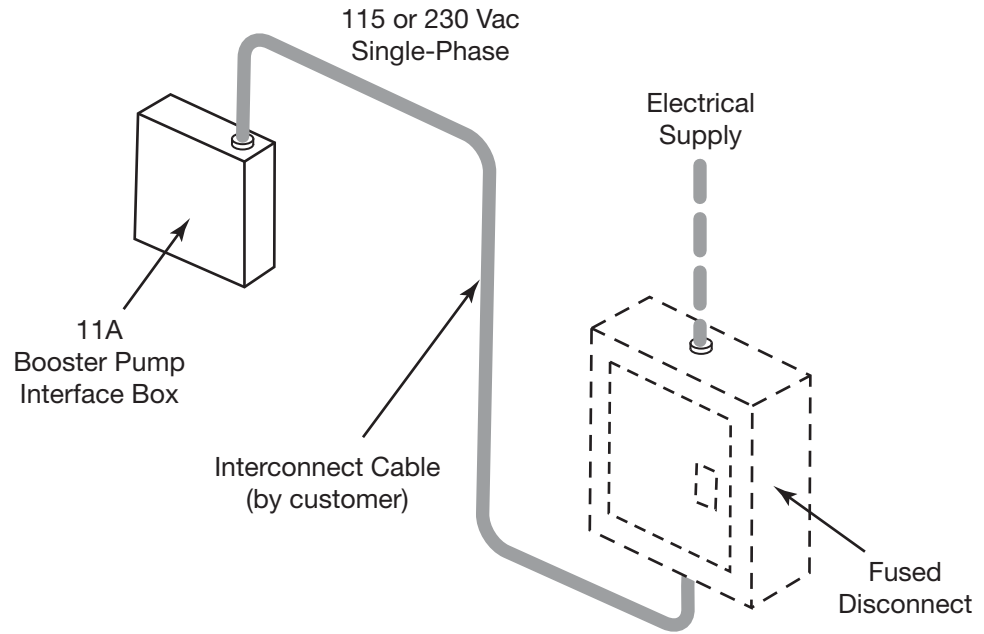
Figures 5–6 through 5–12 show a typical installation of the booster pump package. The actual configuration will depend on the desired location of the pump and its I/F (interface) box (by customer), as well as the particular structure of the sterilizer and the sterilizer site.

FIGURE 5-6. TYPICAL BOOSTER PUMP INSTALLATION



 This illustration shows a unit with a 26 in. length chamber. On units with a 39 in. or 51 in. length chamber, the water supply strainer is located in the upper piping.

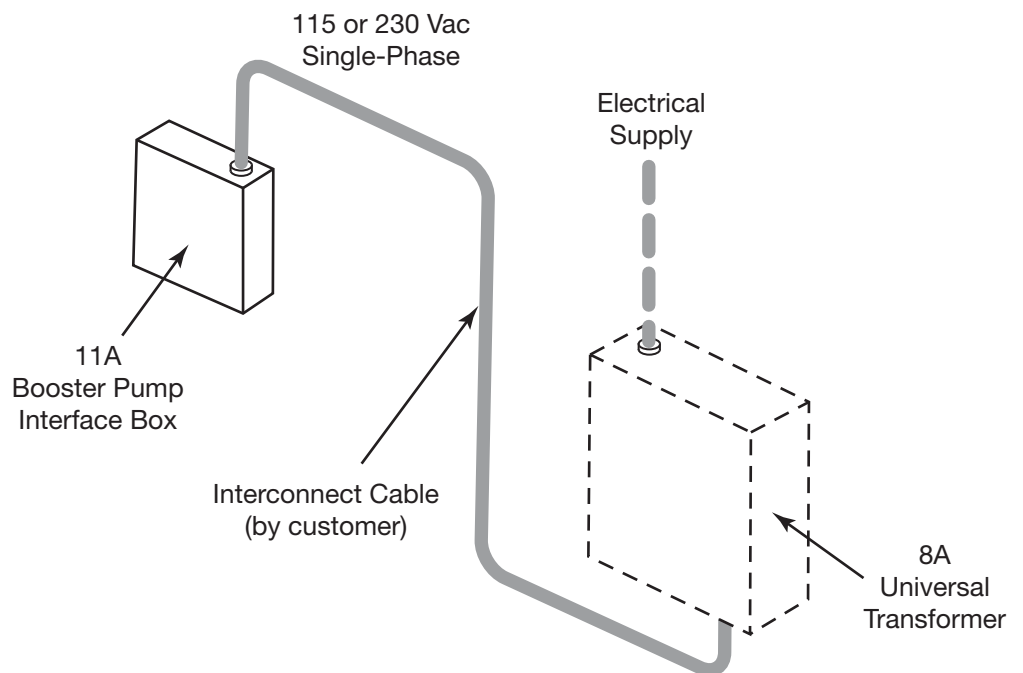
A07027-N

FIGURE 5-7. TYPICAL INTERFACE BOX INSTALLATION

350069-B

**NOTE**

If the mains voltage is 380/400/415 Vac or 440/460/480 Vac, a universal transformer will be required to provide 115 Vac or 230Vac for the booster pump junction box. (See page 5-16.)

FIGURE 5-8. TYPICAL INTERFACE BOX INSTALLATION (WITH UNIVERSAL TRANSFORMER)

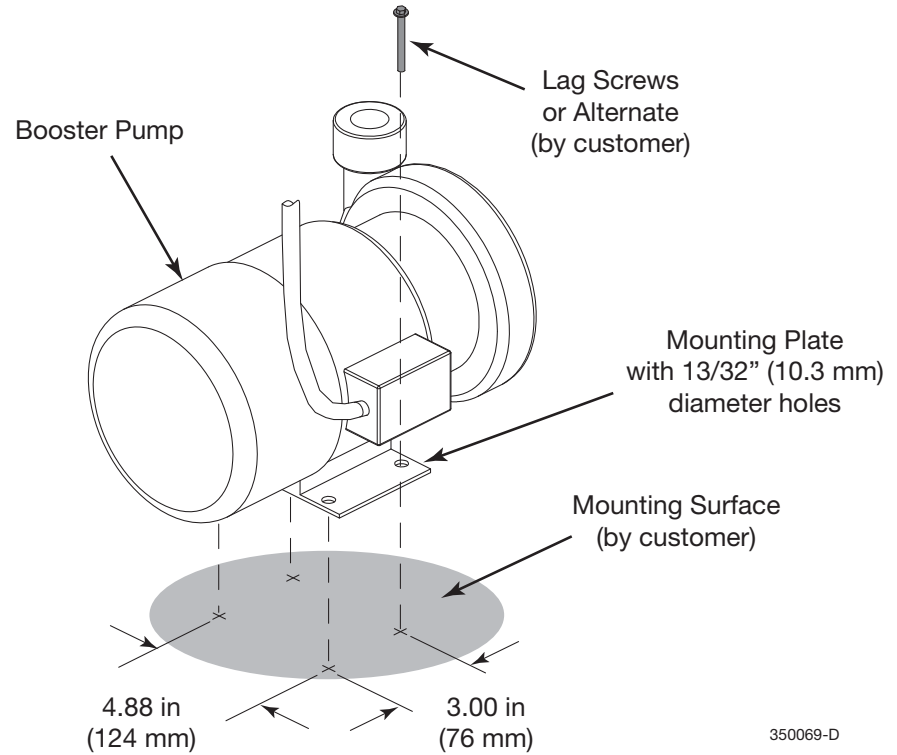
350069-C

MOUNTING THE BOOSTER PUMP AND INTERFACE BOX

To mount the booster pump:

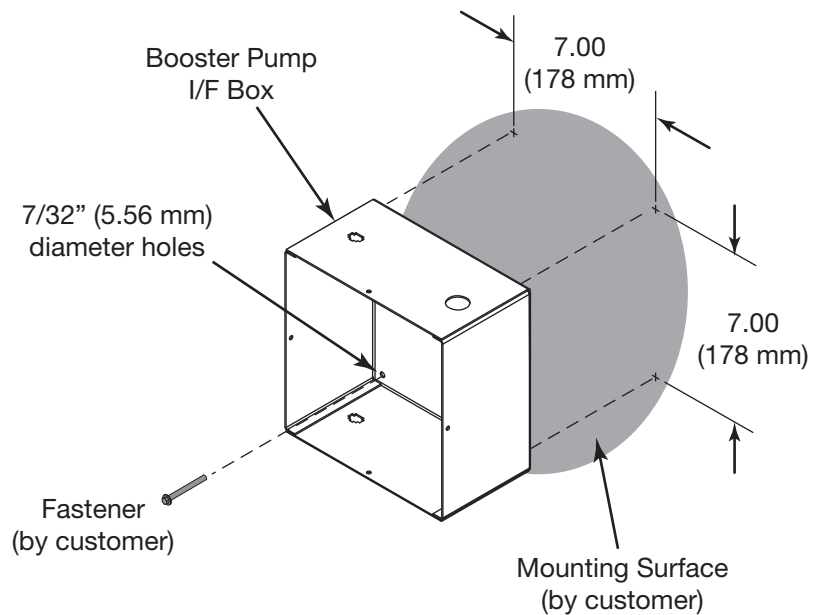
1. Fasten the booster pump to its mounting surface as shown in Figure 5–9.

FIGURE 5–9. MOUNTING THE BOOSTER PUMP



2. Fasten the interface box to its mounting surface as shown in Figure 5–10.

FIGURE 5–10. MOUNTING THE INTERFACE BOX



CONNECTING THE PLUMBING

Make the following plumbing connections:

1. Connect the plumbing between the $\frac{3}{4}$ NPT pump discharge orifice and the $\frac{3}{4}$ NPT inlet orifice at the sterilizer water supply strainer.

**NOTE**

The customer must provide a pressure gauge in the plumbing connection between the pump discharge orifice and the sterilizer water strainer.

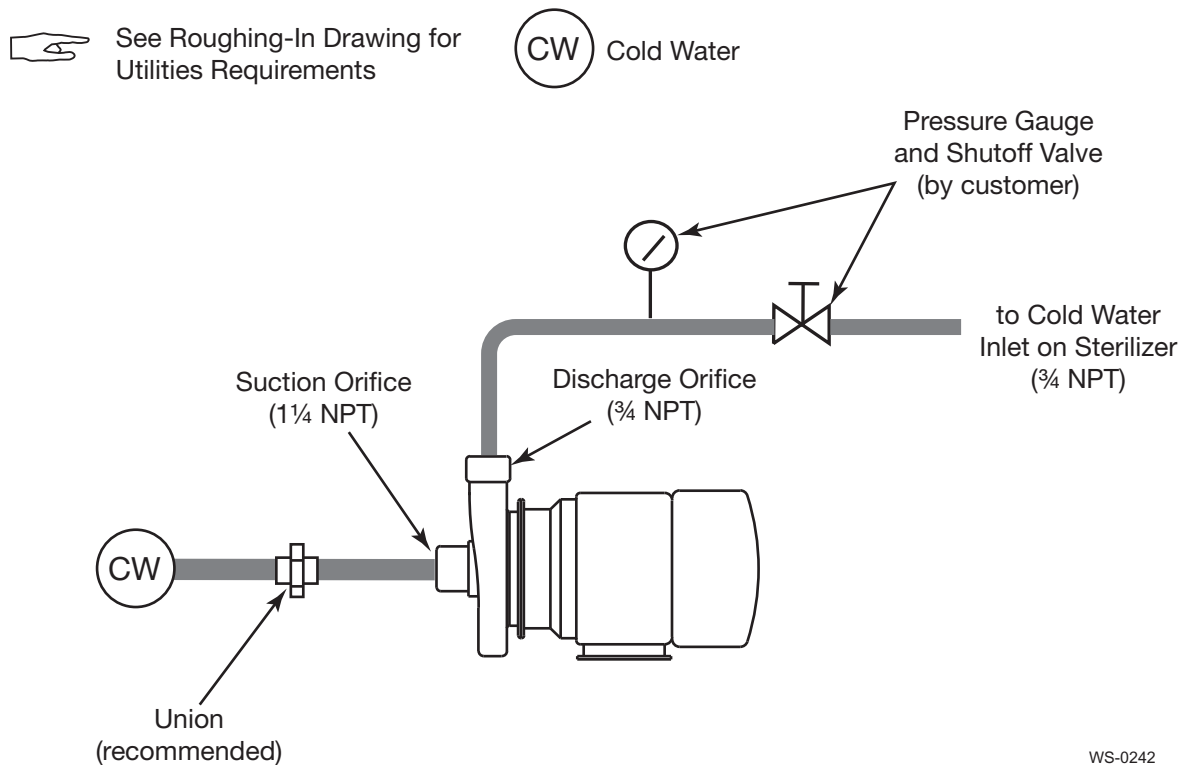
The customer must provide a shutoff valve in the water supply line to the sterilizer.

2. Connect the plumbing between the $1\frac{1}{4}$ NPT pump suction orifice and the water supply line.

**NOTE**

The pipe size must be $1\frac{1}{2}$ in. OD minimum (the minimum flow rate must be at least 5.1 gallons/minute).

FIGURE 5-11. BOOSTER PUMP PLUMBING CONNECTIONS



WS-0242

CONNECTING THE ELECTRICAL POWER

To connect the single-phase supply to the booster pump junction box:

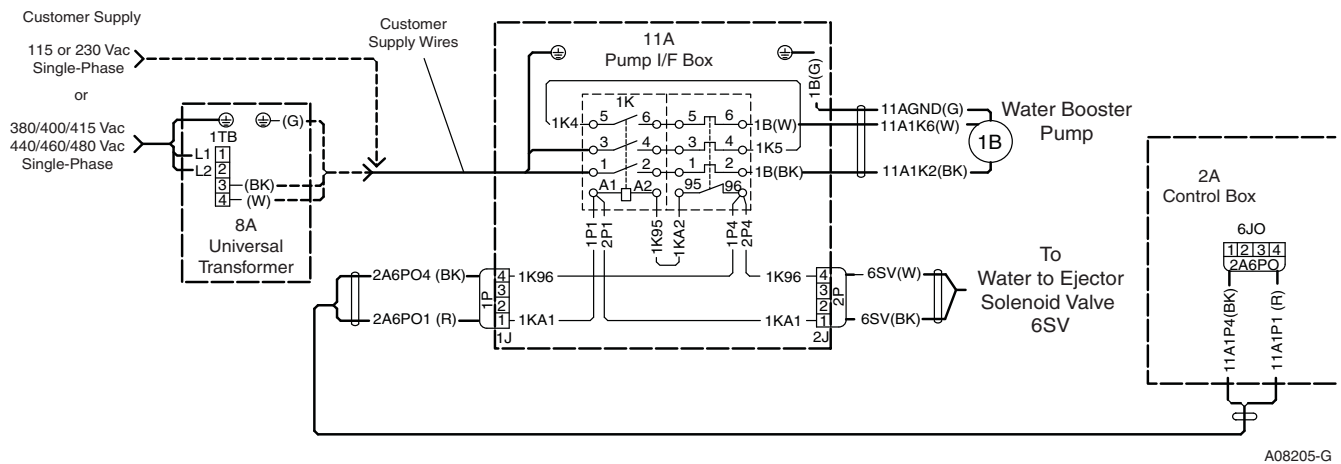
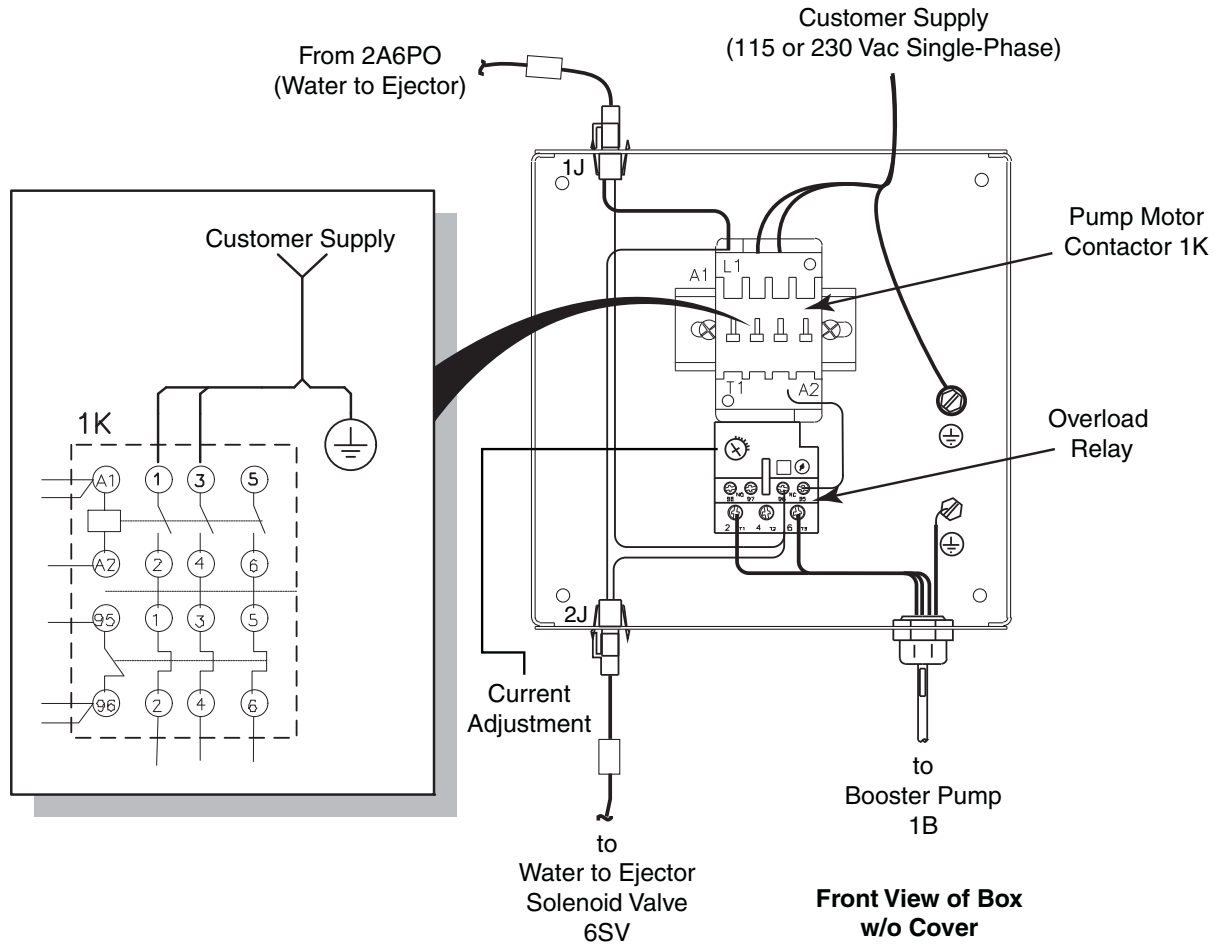
1. Connect the booster pump junction box to the booster pump as shown in Figure 5–12 on page 5–15.



CAUTION

Route the cord so that it does not touch any hot steam lines or sterilizer surfaces.

2. Connect the cords from the booster pump interface box to the sterilizer control box.
 - a. Disconnect the cord from 6JO on the back of the control box (that goes to solenoid valve 6SV) and connect it to 11A2J on the booster pump interface box.
 - b. Using the cord provided (P/N 61311601245), connect 11A1J on the junction box to 2A6JO on the control box.
3. Connect the electrical supply (provided by the customer) to the booster pump interface box as follows:
 - a. Connect Line (L) to 1K relay terminal 1 (L1).
 - b. Connect Neutral (N) to 1k relay terminal 3 (L2).
 - c. Connect Protective Earth Ground (G) to the PE Ground screw inside the box.
4. Install the overload relay inside the interface box and connect the wires as shown in Figure 5–12 on page 5–15.
5. Set the overload relay current adjustment to match the current stamped on the rating plate.

FIGURE 5-12. BOOSTER PUMP ELECTRICAL CONNECTIONS

UNIVERSAL TRANSFORMER

When the customer power supply is 380 Vac or above, a transformer is required to step down the voltage to the 115 Vac required by the sterilizer controls. The customer is to provide:

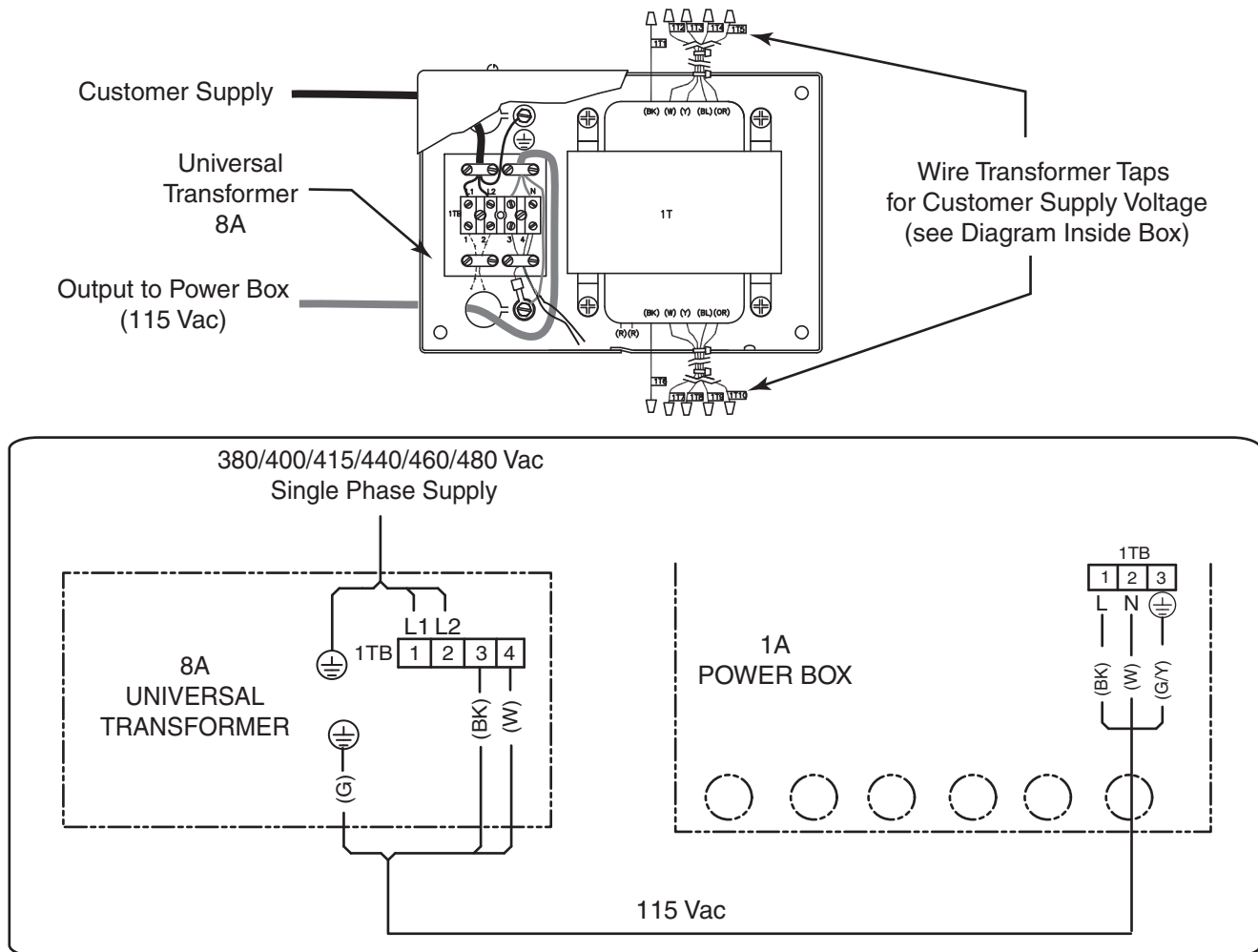
- mounting of the transformer box.
- a connection from the transformer to the sterilizer power box.
- a connection from the customer supply (mains) to the transformer that meets local code requirements.
- the required fused disconnects.



CAUTION

If a UPS will be installed, see *UPS Installation Instructions (Pub. No. 61301605360)* for electrical connections.

FIGURE 5-13. POWER SUPPLY CONNECTIONS



A08205-B

**CONNECTING THE
TRANSFORMER**

To connect the transformer:

1. After the transformer is installed, make the mains power supply connections (L1 & L2) at the transformer terminal block as shown in Figure 5–13 on page 5–16.
2. Wire the primary taps of the transformer for the correct voltage (See chart located on the inside cover of the transformer).
3. Make the electrical connections from the sterilizer power box (1A) to the transformer (8A) as shown in Figure 5–13 on page 5–16.

UNINTERRUPTIBLE POWER SUPPLY (UPS)



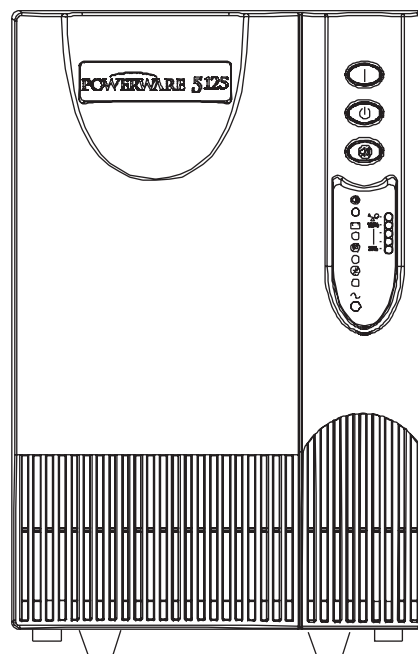
NOTE

Read the manufacturer's instruction manual before installing the UPS. After the UPS has been installed, leave the UPS manual with the equipment to ensure that it will be available for future reference.

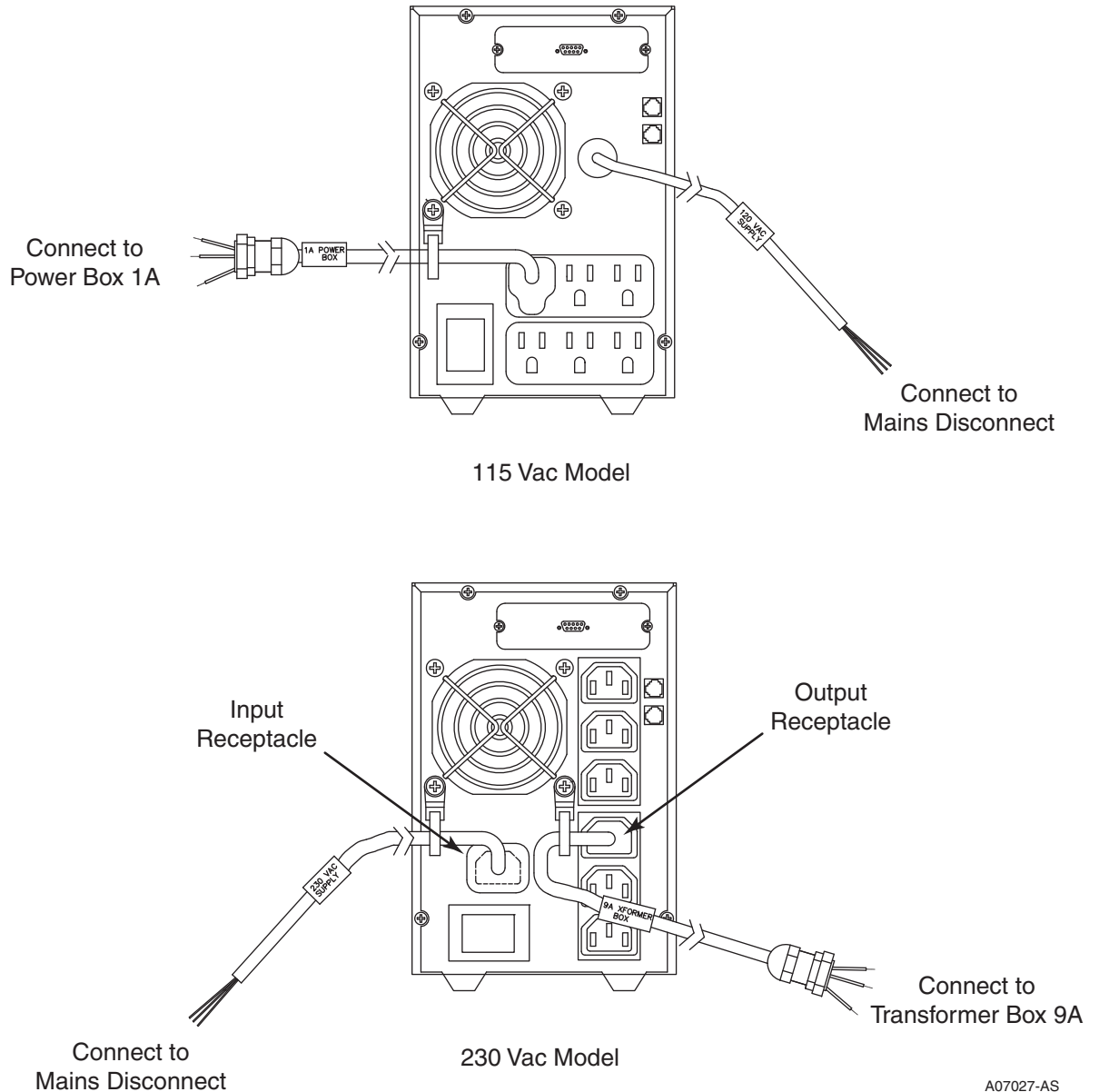
Two types of uninterruptible power supplies (UPS) are available:

- UPS Package, 115 Vac (Part No. 61301602038)
- UPS Package, 230 Vac (Part No. 61301609065)

FIGURE 5-14. UNINTERRUPTIBLE POWER SUPPLY (UPS)



A08214-A

FIGURE 5-15. UPS BACK PANEL

A07027-AS

UNPACKING

Check the contents against the bill of material provided in the UPS package.

MOUNTING

When selecting a location for the UPS, observe the manufacturer's recommendations for operating temperature and relative humidity. Observe the following restrictions:

- Locate the UPS within 10 feet (3 meters) of Power Box Assembly 1A.
- Do not mount the UPS on the sterilizer frame.

CONNECTING THE ELECTRICAL POWER

To connect the UPS:

- 1. Prepare the UPS cables as described in the UPS Installation Instructions (Pub. No. 61301605360).

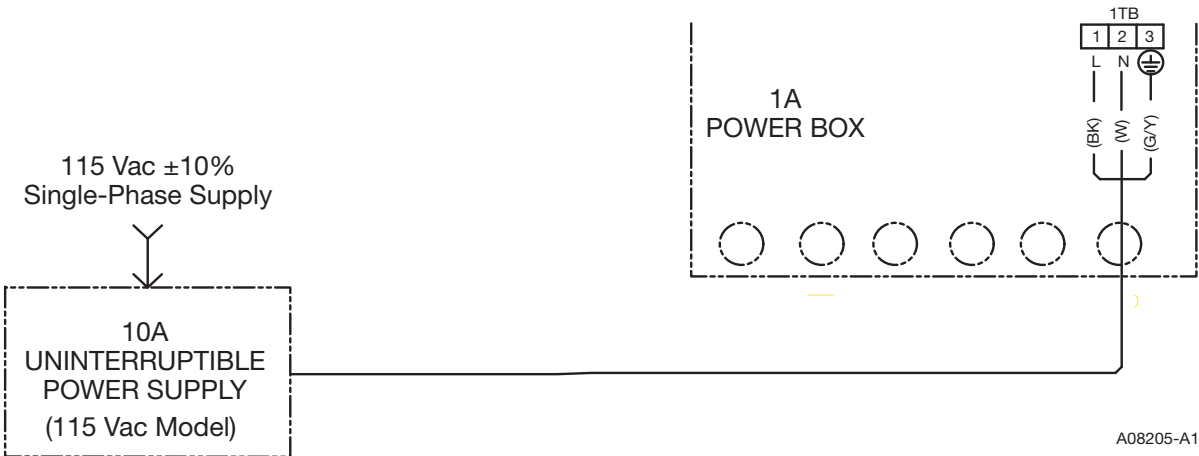


NOTE

The UPS cables are marked with their destination (e.g., 120V Supply, 1A Power Box). The cable that connects to the sterilizer is fitted with a liquid-tight connector.

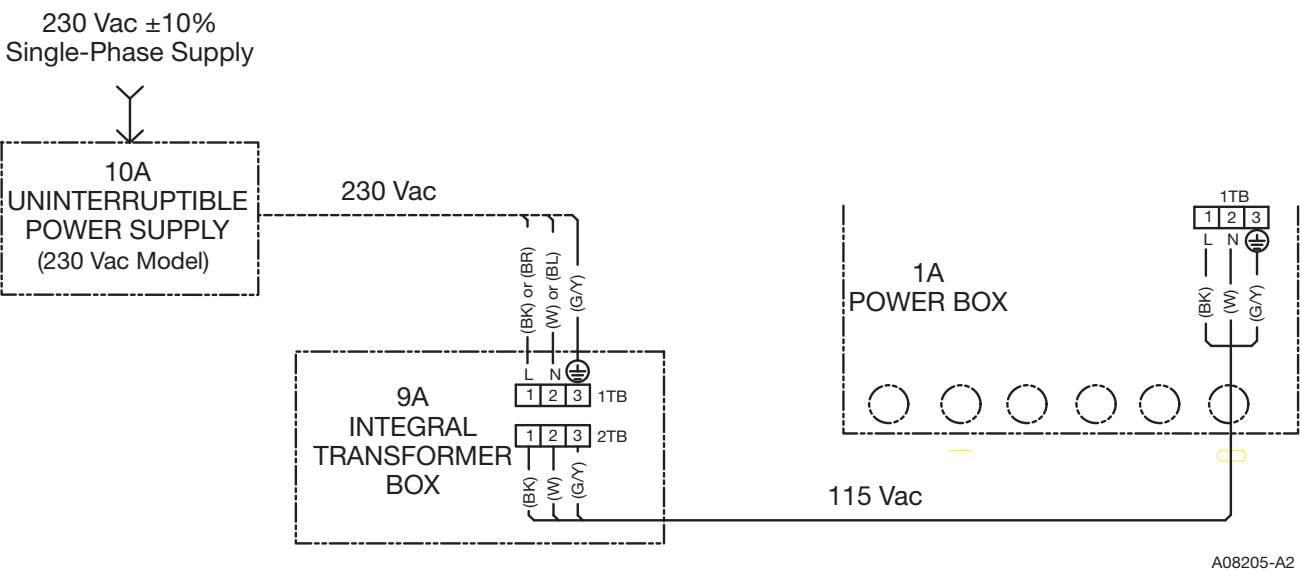
- 2. Connect the UPS to the sterilizer:
 - a. If the mains voltage is 115 Vac, connect the UPS directly to Power Box 1A (see Figure 5–16).

FIGURE 5-16. UPS CONNECTION (115 VAC)



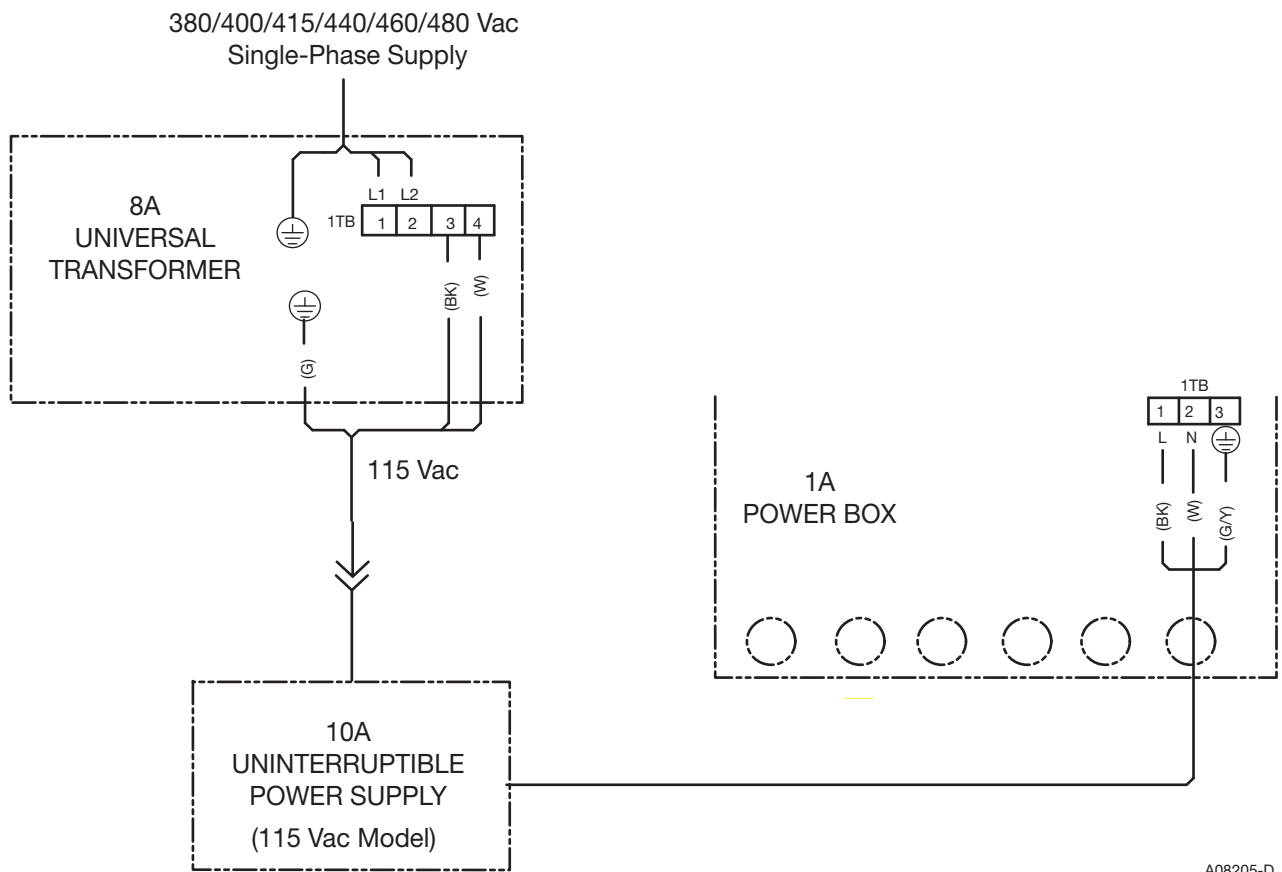
- b. If the mains voltage is 230 Vac, connect the UPS to Integral Transformer Box 9A (see Figure 5–17).

FIGURE 5-17. UPS CONNECTION (230 VAC)



- c. If the mains voltage is 380 Vac or above, connect the UPS between Universal Transformer 8A and Power Box 1A (see Figure 5–18).

FIGURE 5–18. UPS CONNECTION (OTHER VOLTAGES)



3. Connect the UPS to the mains disconnect.

WATER-SAVER SYSTEM

The MP-129F Water-Saver is an add-on system that incorporates a water ejector with a pump and a water reservoir to recirculate the water that creates the vacuum necessary for part of the sterilization cycle.

Installation of the water-saver consists of:

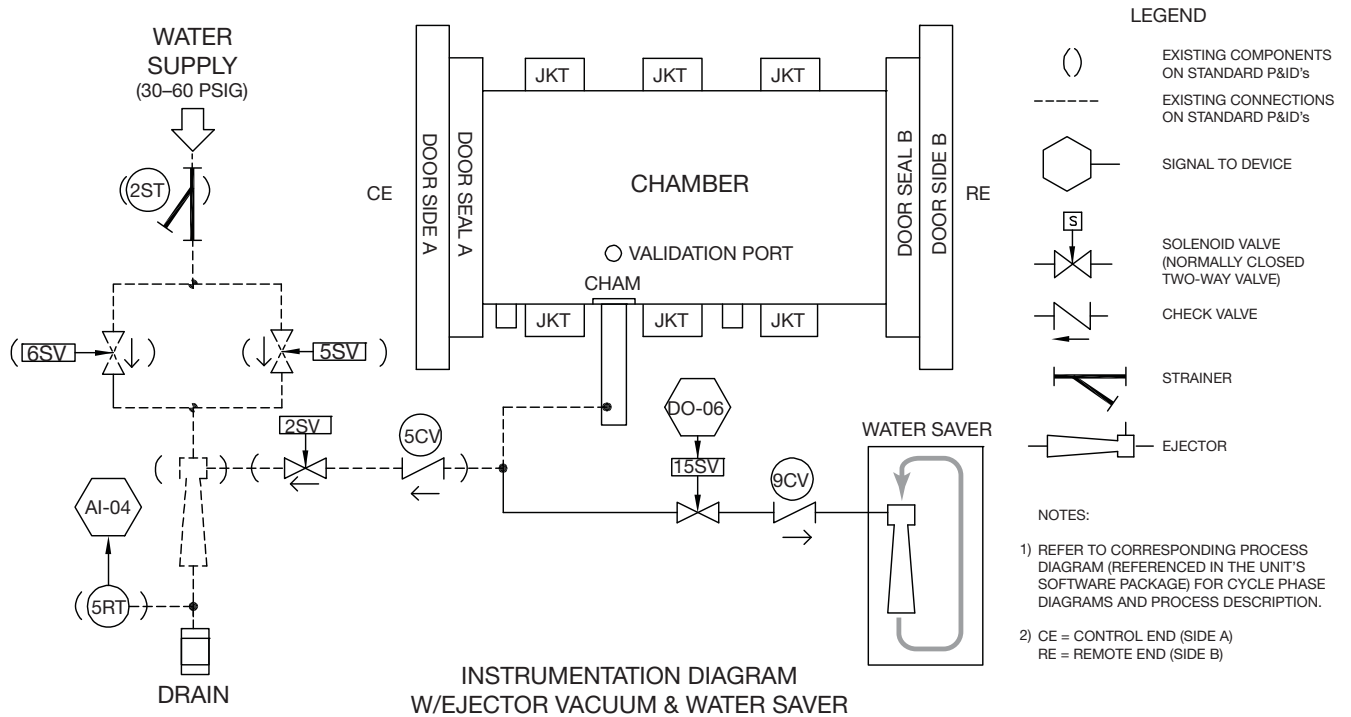
- Locating, mounting, and anchoring the unit.
- Connecting the cold water supply tubing.
- Connecting the overflow drain line
- Connecting the water-saver to the sterilizer piping (see Figure 5–19 on page 5–23).
- Connecting the electrical power to the water-saver I/F Box (see Figure 5–20 on page 5–24).
- Connecting the water-saver to the sterilizer controls (see Figure 5–20 on page 5–24).

The customer must provide a proper drainage system, cold water supply, and electrical service. Refer to MP–129 (E & F) WATER-SAVER Installation Instructions (Pub. No. 61301605429).



WARNING

Turn off all electricity, water, and steam to the sterilizer before starting the installation of the water-saver. Touching live electrical connections and/or exposure to live steam could cause serious injury.

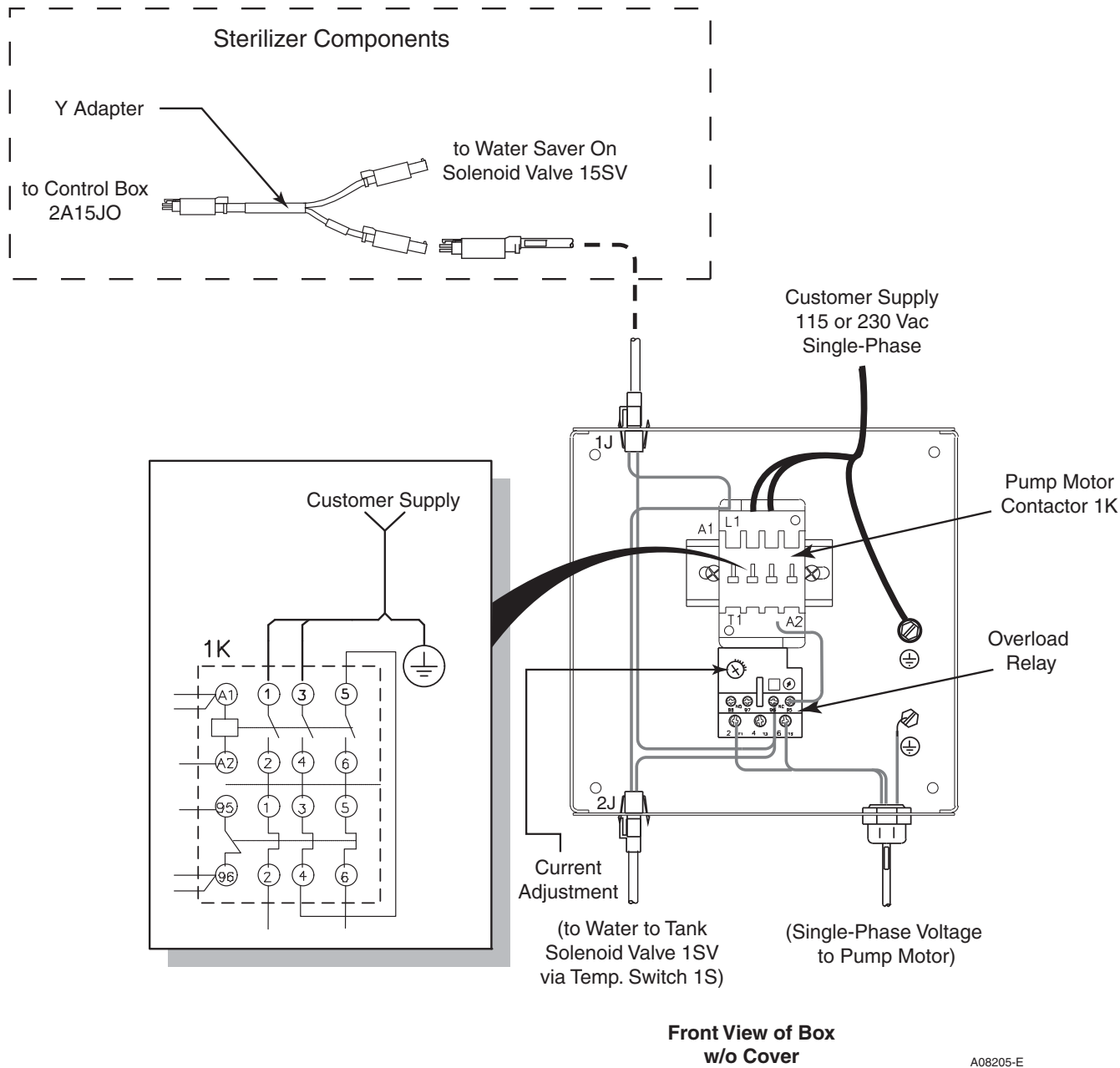
FIGURE 5-19. STERILIZER PIPING WITH WATER-SAVER INSTALLED

A08205-F

**NOTE**

The Water-Saver requires a separate 115 Vac, 60 Hz (26A rating) or 230 Vac, 60 Hz (13A rating) mains supply.

FIGURE 5-20. WATER-SAVER ELECTRICAL CONNECTIONS



WATER TREATMENT SYSTEM

At some installations, the feedwater supply to the steam boiler may require treatment in order to meet the Steam Boiler Feedwater Quality specification on the installation drawing.



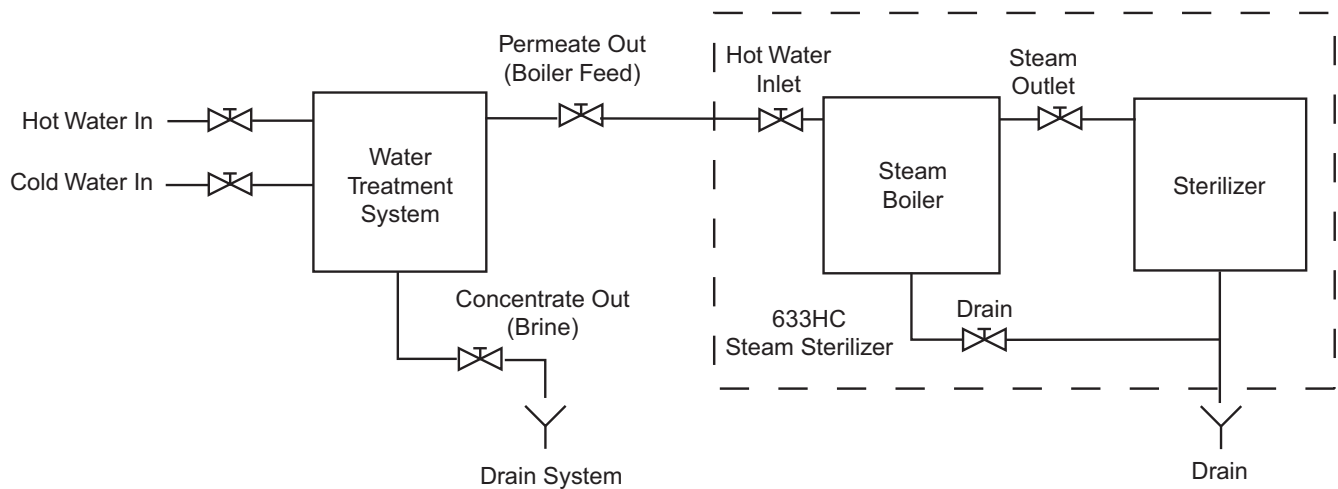
NOTE

Reverse osmosis (RO) water treatment systems of various capacities may be purchased from Geringe. The Model HS-300 Water Treatment System meets the requirements of one 633HC Steam Sterilizer. For installations where one water treatment system will supply multiple sterilizers, consult your Geringe representative.

The manufacturer's instruction manual includes important maintenance information. After the water treatment system is installed, leave the manual with the equipment to ensure that it will be available for future reference.

Connect the permeate water out (RO) supply from the water treatment system to the hot water inlet on the steam boiler.

FIGURE 5-21. TYPICAL WATER TREATMENT PIPING

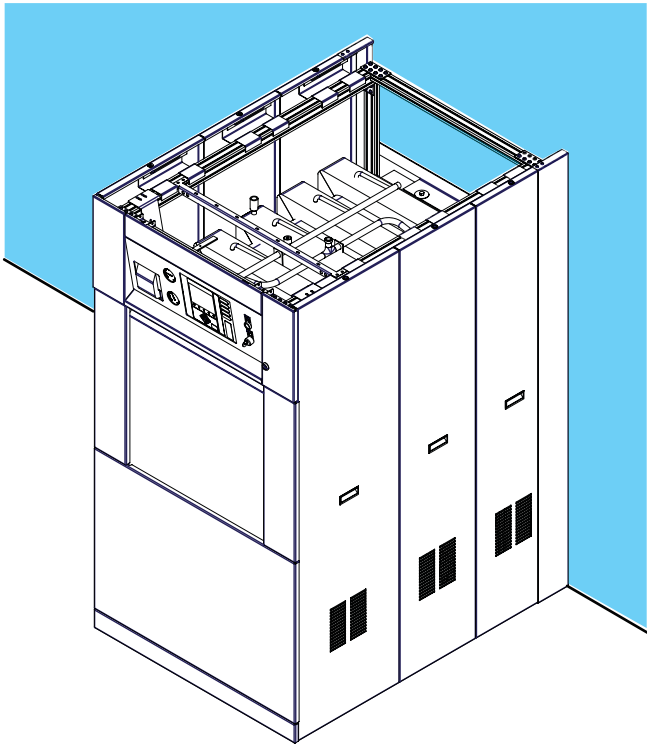


A07027-U

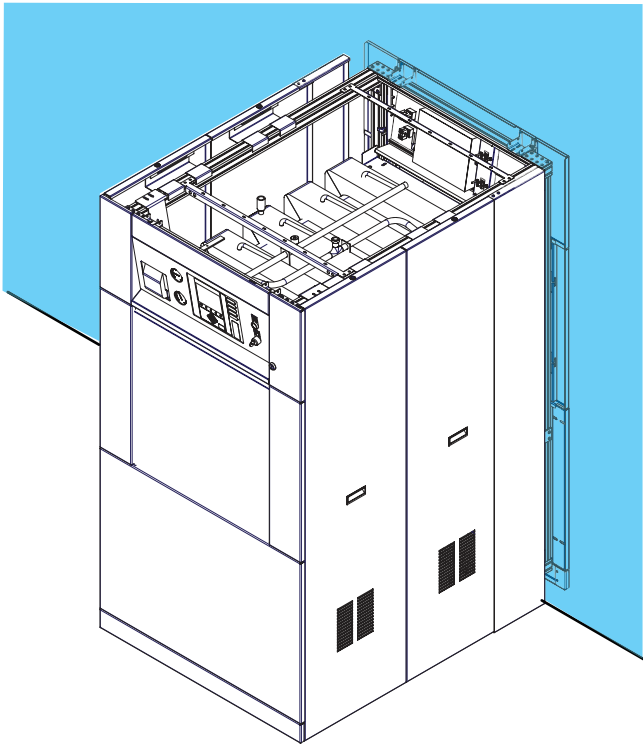
CABINET PACKAGE

Cabinet packages are available for single door units and double door units that are recessed in a wall at one end (see Figure 5-22).

FIGURE 5-22. CABINET PACKAGE



Single Door Unit



Double Door Unit
(recessed in wall at one end)

A07027-G

UNPACKING

The number and the width of the side panels varies with the length and door configuration. When unpacking the cabinet package, check the contents against the bills of material below:

TABLE 5-2. CAB PKG,SD,26",600 (P/N 61301607311)

Item	Description	Part Number	Qty
1	PANEL,SIDE,CAB,20",100/200	61301601413	2
2	HANDLE,POCKET,PULL	61301600946	4
3	BRKT,LWR,CABINET,26",600	61301607316	2
4	LATCH,ADJUST,COMPRESS,SOUTHCO	61301608549	4
5	BRKT,MTG,TOP,CABINET PKG,600	61301607317	4
6	PANEL,SIDE,CAB,15",100/200	61301601414	2
7	PANEL,SIDE,CAB,TRIM,10"100/200	61301601415	2
8	SCR,S/TP,PAN HD,.16-32X .38,41	E7264	4

TABLE 5-3. CAB PKG,SD,26",W/BOILER,600 (P/N 61301607318)

Item	Description	Part Number	Qty
1	PANEL,SIDE,CAB,20",100/200	61301601413	4
2	HANDLE,POCKET,PULL	61301600946	4
3	BRKT,MTG,TOP,CABINET PKG,600	61301607317	4
4	LATCH,ADJUST,COMPRESS,SOUTHCO	61301608549	4
5	BRKT,BOILER,CAB PKG,26",600	61301607319	2
6	SCR,S/TP,PAN HD,.16-32X .38,41	E7264	4
7	PANEL,SIDE,TRIM,CAB,400/500	61301608474	2

TABLE 5-4. CAB PKG,SD,39",600 (P/N 61301607312)

Item	Description	Part Number	Qty
1	BRKT,RT,CABINET PKG,39",600	61301607323	2
2	BRKT,MTG,TOP,CABINET PKG,600	61301607317	6
3	PANEL,SIDE,CAB,20",100/200	61301601413	2
4	PANEL,SIDE,CAB,15",100/200	61301601414	4
5	LATCH,ADJUST,COMPRESS,SOUTHCO	61301608549	6
6	PNL,SIDE,CAB,TRIM,6",600	61301607324	2
7	HANDLE,POCKET,PULL	61301600946	6
8	SCR,S/TP,PAN HD,.16-32X .38,41	E7264	4

TABLE 5-5. CAB PKG,SD,51",600 (P/N 61301607313)

Item	Description	Part Number	Qty
1	BRKT,CABINET PKG,51",600	61301607326	2
2	BRKT,MTG,TOP,CABINET PKG,600	61301607317	6
3	PANEL,SIDE,CAB,20",100/200	61301601413	6
4	LATCH,ADJUST,COMPRESS,SOUTHCO	61301608549	6
5	SCR,S/TP,PAN HD,.16-32X .38,41	E7264	4
6	HANDLE,POCKET,PULL	61301600946	6
7	PANEL,SIDE,CAB,TRIM,10"100/200	61301601415	2

TABLE 5-6. CAB PKG,DD,39",600 (P/N 61301607314)

Item	Description	Part Number	Qty
1	BRKT,RT,CABINET PKG,39",600	61301607323	2
2	BRKT,MTG,TOP,CABINET PKG,600	61301607317	4
3	PANEL,SIDE,CAB,20",100/200	61301601413	4
4	LATCH,ADJUST,COMPRESS,SOUTHCO	61301608549	4
5	HANDLE,POCKET,PULL	61301600946	4
6	SCR,S/TP,PAN HD,.16-32X .38,41	E7264	4
7	PANEL,SIDE,CAB,TRIM,10"100/200	61301601415	2

TABLE 5-7. CAB PKG,DD,51",600 (P/N 61301607315)

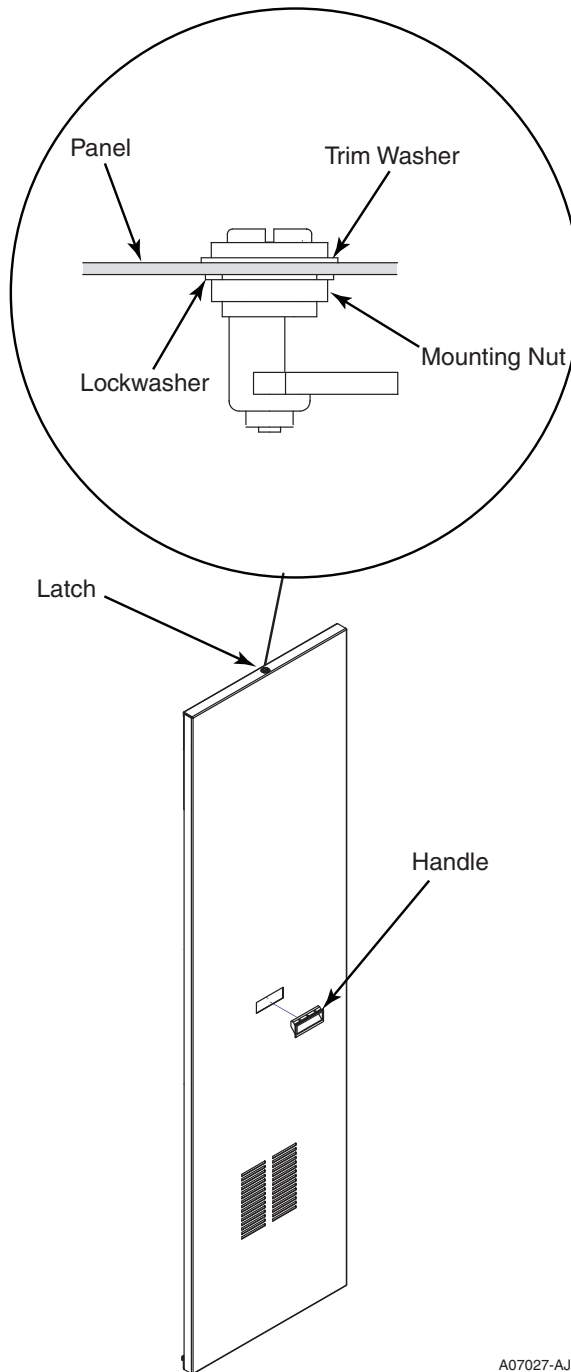
Item	Description	Part Number	Qty
1	BRKT,CABINET PKG,51",600	61301607326	2
2	BRKT,MTG,TOP,CABINET PKG,600	61301607317	6
3	PANEL,SIDE,CAB,20",100/200	61301601413	2
4	PANEL,SIDE,CAB,15",100/200	61301601414	4
5	PANEL,SIDE,TRIM,CAB,400/500	61301608474	2
6	LATCH,ADJUST,COMPRESS,SOUTHCO	61301608549	6
7	SCR,S/TP,PAN HD,.16-32X .38,41	E7264	4
8	HANDLE,POCKET,PULL	61301600946	6

PREPARING THE SIDE PANELS

To prepare the side panels:

1. Insert the handle into the side panel.
2. Install the latch in the hole on the top of the panel as shown in Figure 5-23.

FIGURE 5-23. PREPARING THE PANELS

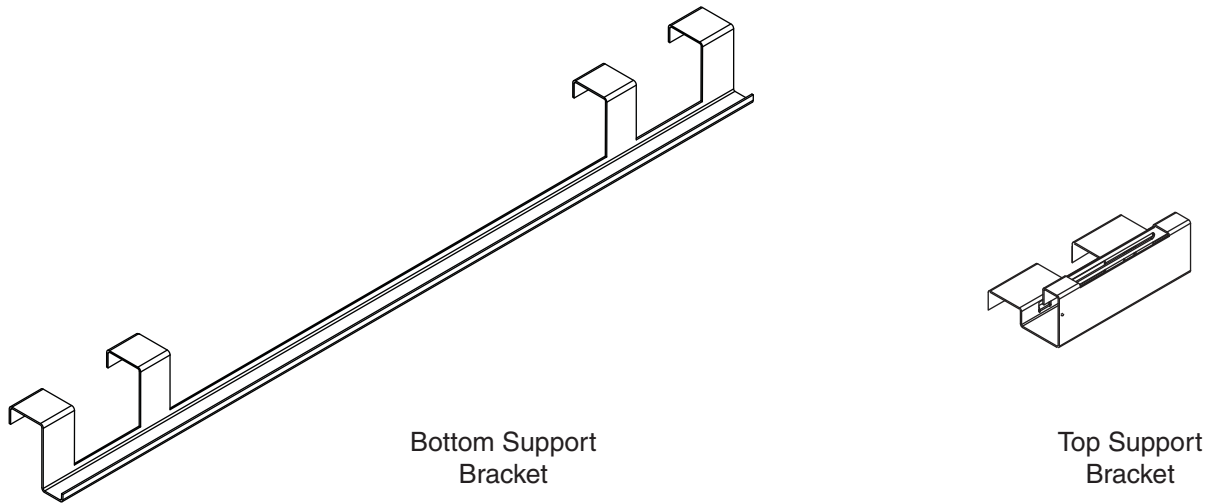


A07027-AJ

INSTALLING THE SUPPORT BRACKETS

Refer to Figure 5–24. Each cabinet package has two bottom support brackets and either four or six top support brackets depending on the number of side panels in the package.

FIGURE 5–24. SUPPORT BRACKETS

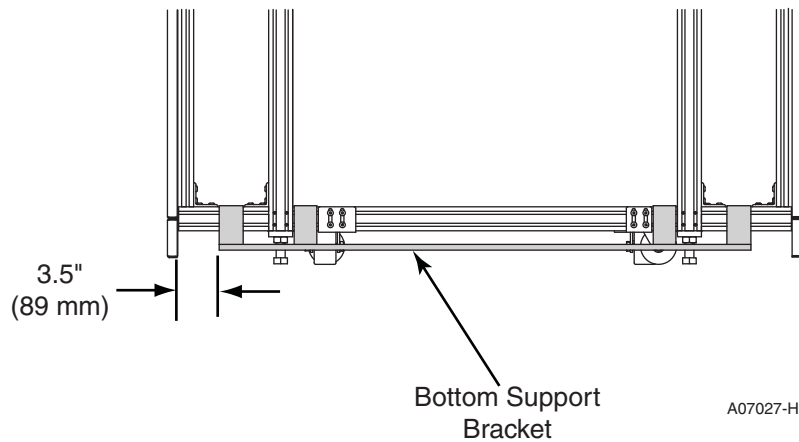


A07027-F

To install the support brackets:

1. Place the bottom support bracket on the lower frame as shown in Figure 5–25.

FIGURE 5–25. INSTALLING THE BOTTOM SUPPORT BRACKET



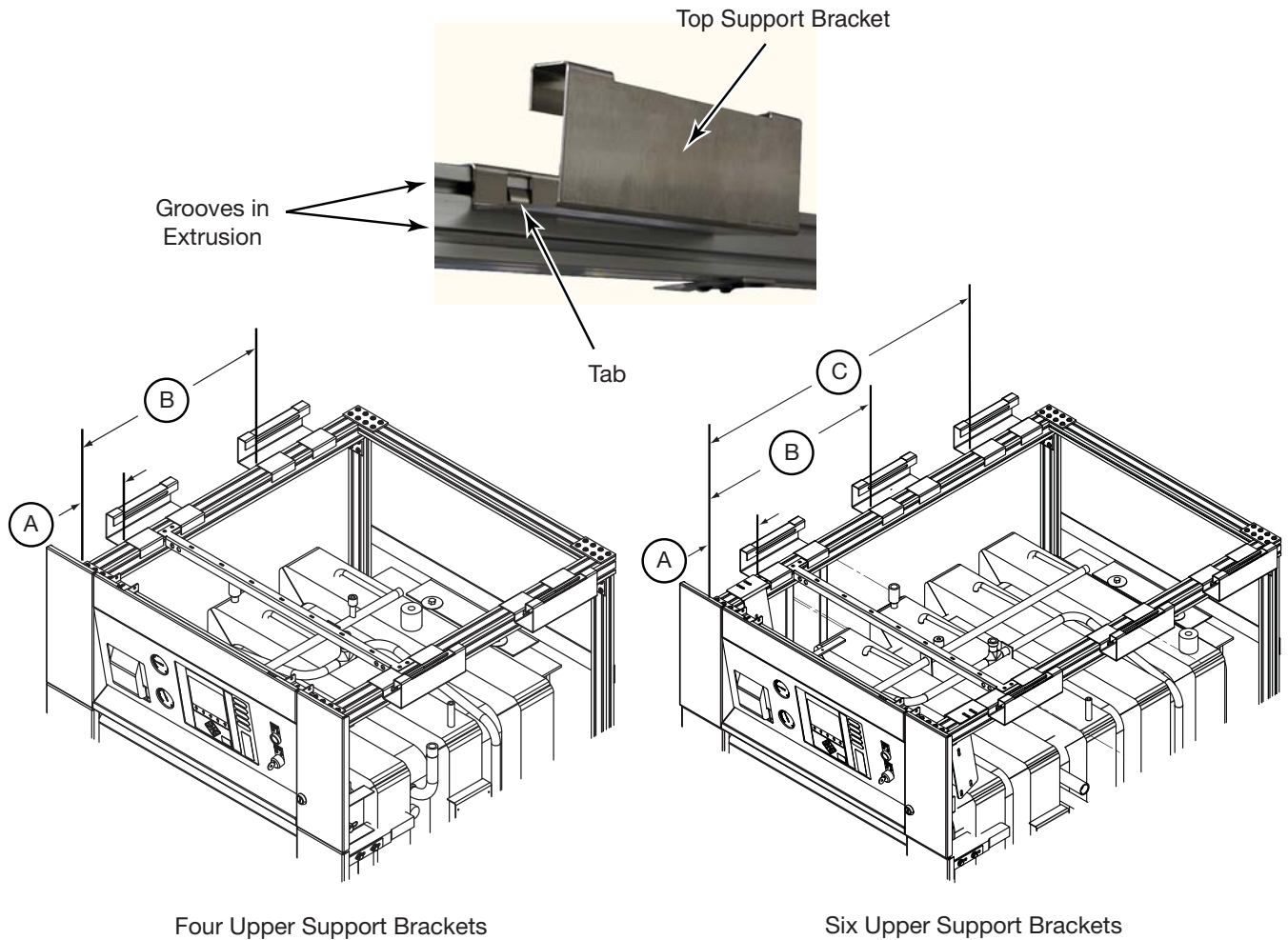
A07027-H

2. Place the top support brackets at the locations shown in Figure 5–26.



NOTE

The sterilizer frame has a channel on all sides. The top support brackets have tabs that fit in the channel to secure the brackets to the frame.

FIGURE 5-26. TOP SUPPORT BRACKET LOCATIONS

STERILIZER LENGTH	DIMENSIONS		
	(A)	(B)	(C)
26"	7.00 in. (178 mm)	24.50 in. (622 mm)	N/A
26" with Boiler	7.00 in. (178 mm)	23.50 in. (597 mm)	N/A
39" Single Door	7.00 in. (178 mm)	23.50 in. (597 mm)	28.75 in. (730 mm)
39" Double Door	7.00 in. (178 mm)	25.50 in. (648 mm)	N/A
51" Single Door	7.00 in. (178 mm)	23.50 in. (597 mm)	45.00 in. (1143 mm)
51" Double Door	7.00 in. (178 mm)	23.50 in. (597 mm)	40.00 in. (1016 mm)

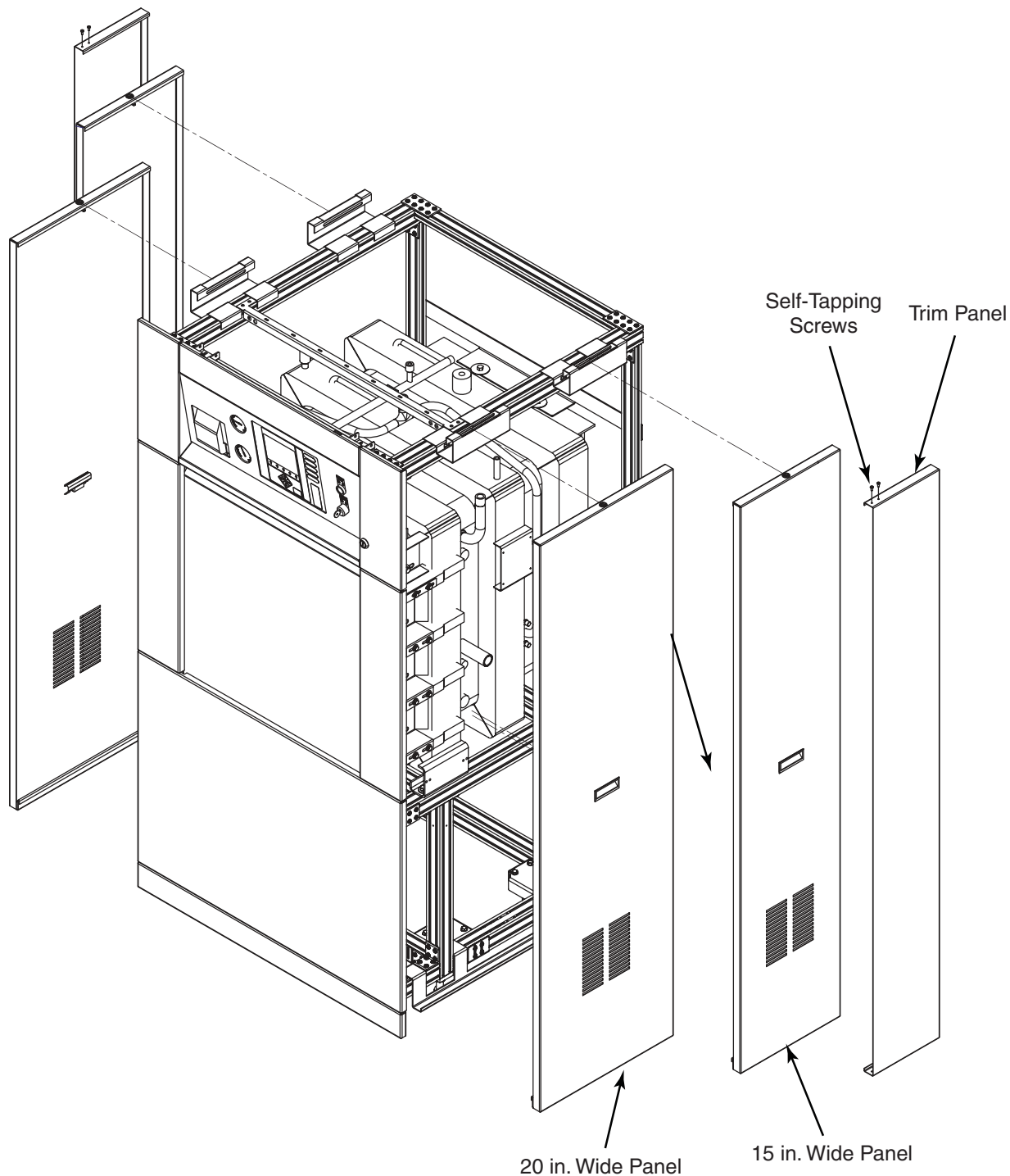
A07027-C

HANGING THE PANELS

To hang the panels:

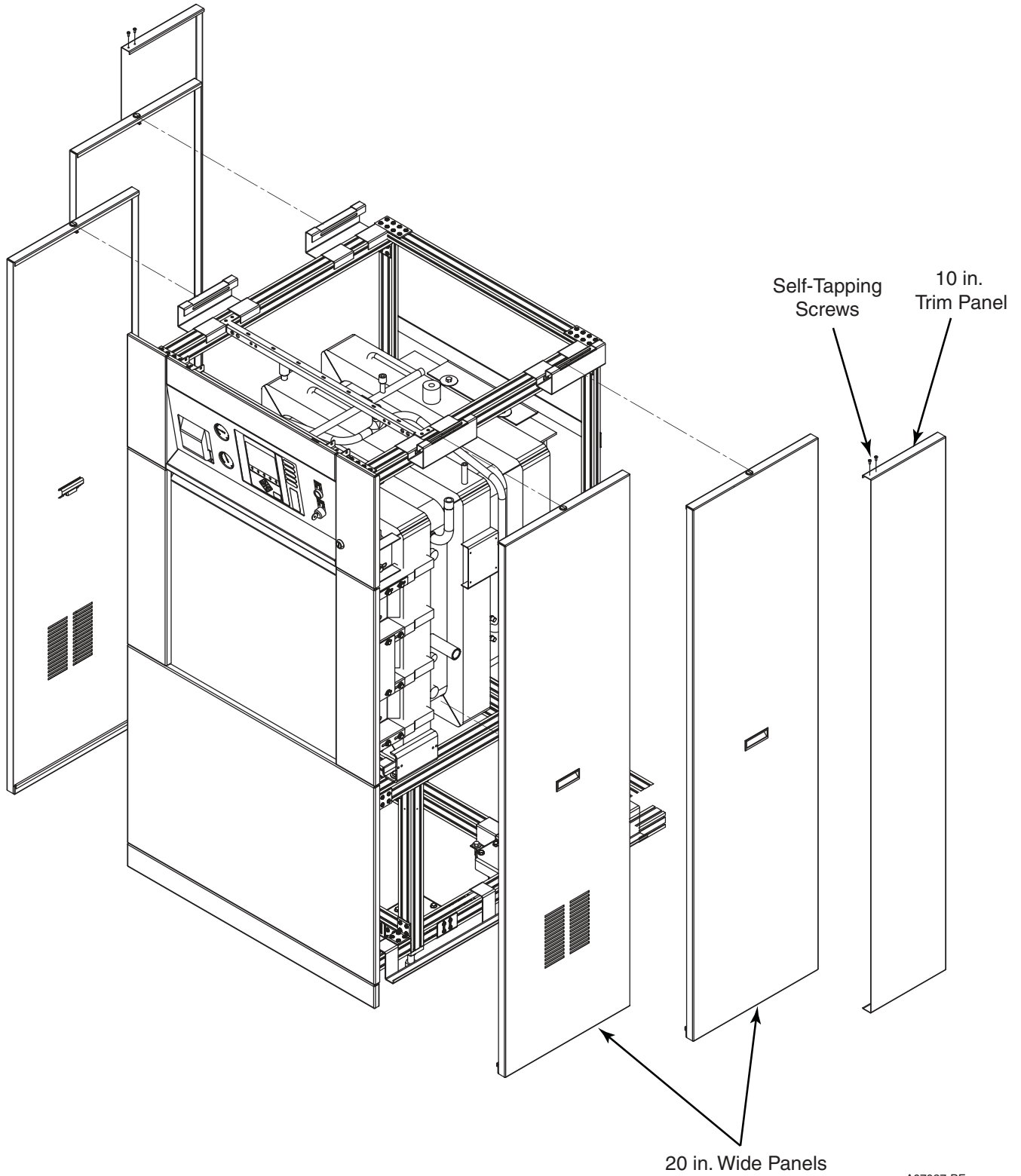
1. Refer to Figures 5-27 thru 5-32. Hang the panels on the support brackets and latch them in place.
2. Attach the trim panels to the side panels using the self-tapping screws provided.

FIGURE 5-27. HANGING THE PANELS (26 IN. WITHOUT BOILER)



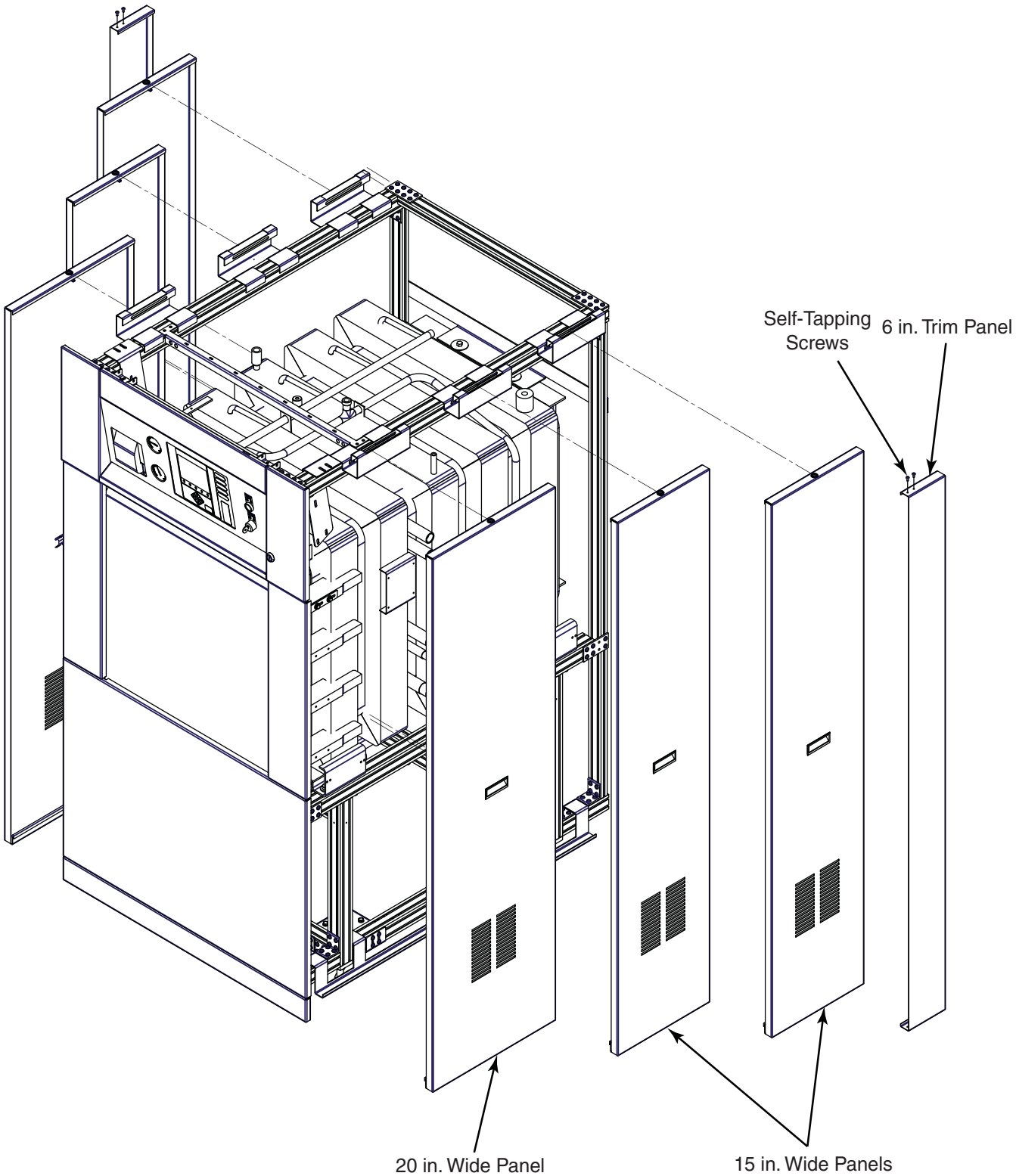
A07027-AK

FIGURE 5-28. HANGING THE PANELS (26 IN. WITH BOILER)



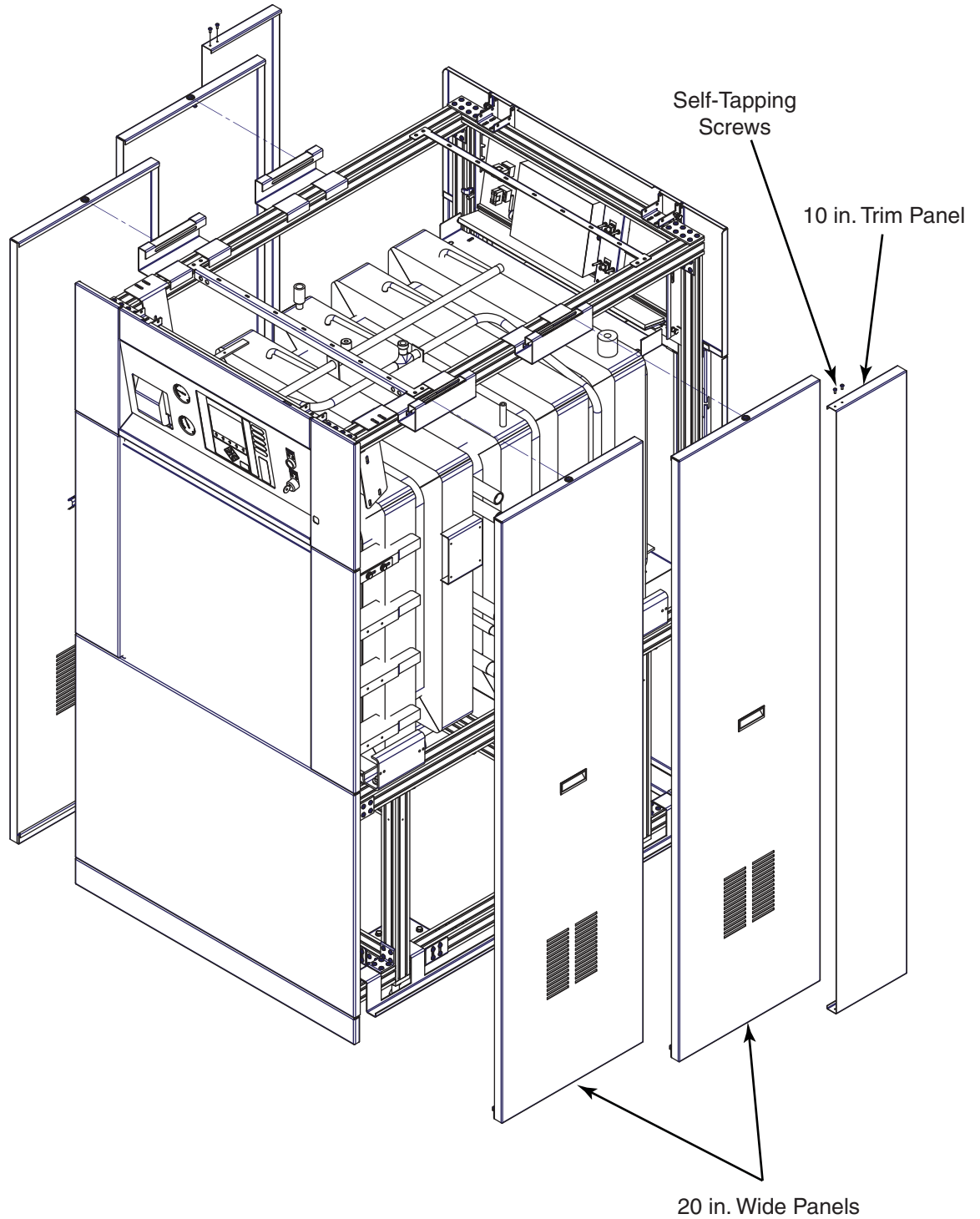
A07027-BF

FIGURE 5-29. HANGING THE PANELS (39 IN. SINGLE DOOR)



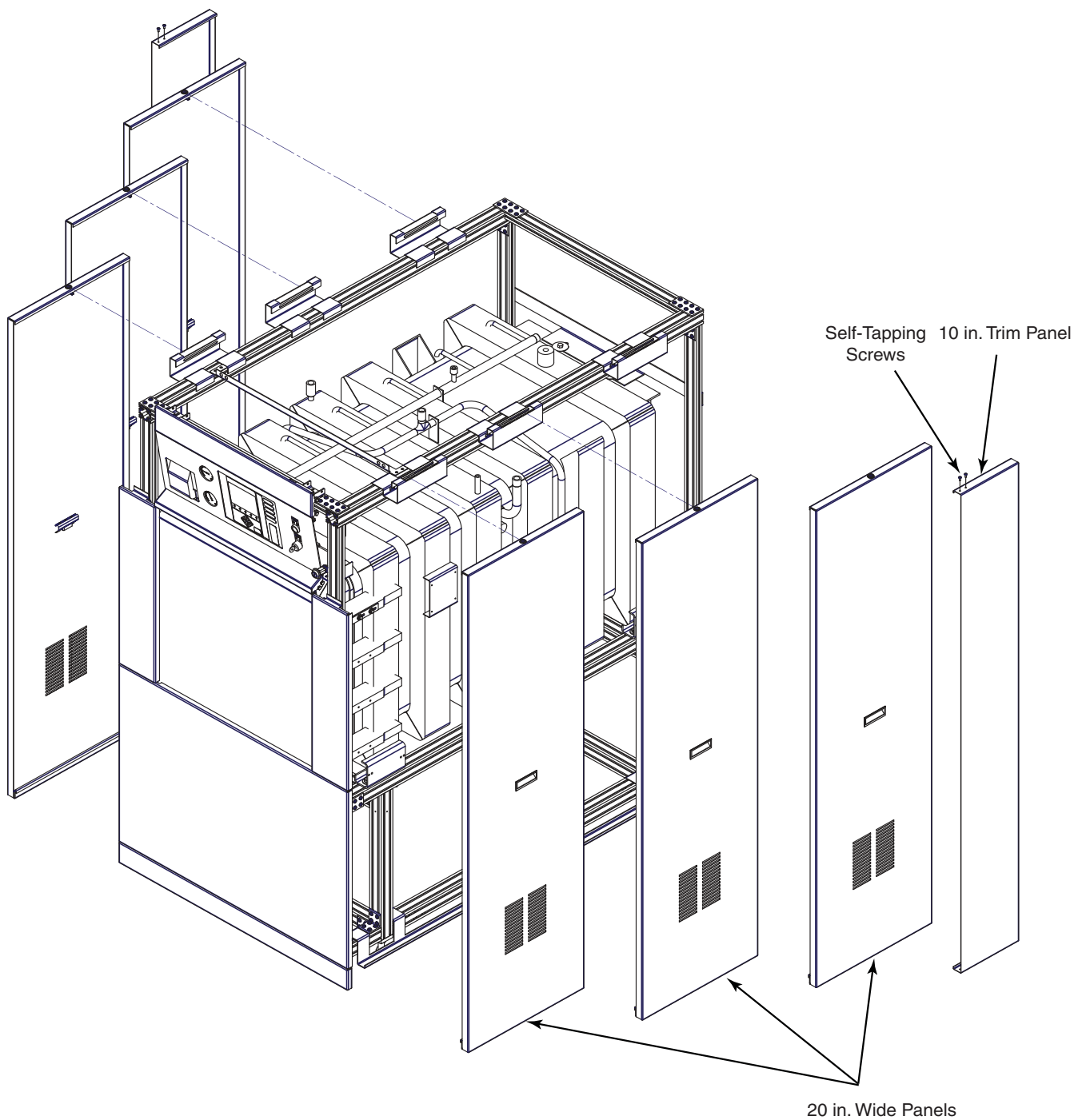
A07027-AL

FIGURE 5-30. HANGING THE PANELS (39 IN. DOUBLE DOOR)



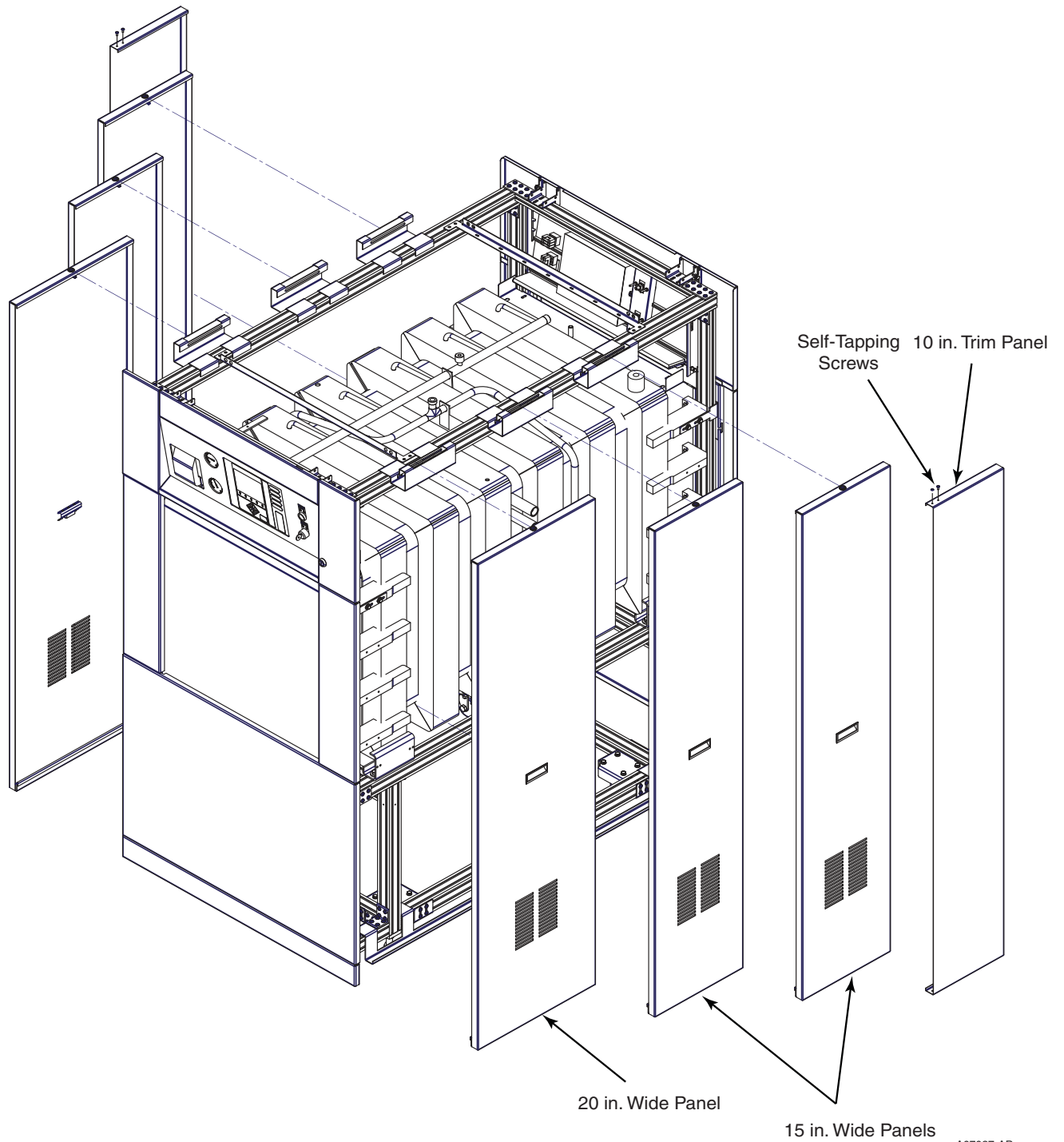
A07027-AM

FIGURE 5-31. HANGING THE PANELS (51 IN. SINGLE DOOR)



A07027-AN

FIGURE 5-32. HANGING THE PANELS (51 IN. DOUBLE DOOR)



A07027-AP

SECTION 6 DRAWINGS

LIST OF DRAWINGS

For technical data, utility requirements, pertinent notes, and seismic anchorage information, refer to the drawings listed in Table 6-1.

TABLE 6-1. INSTALLATION DRAWINGS

Title	Drawing No.	Page No.
600 Series Roughing-In Drawing, Steam Sterilizer, 26 in. Single Door	HS-4125 Rev. C	6-2
600 Series Roughing-In Drawing, Steam Sterilizer, 26 in. Single Door w/Boiler		6-3
600 Series Roughing-In Drawing, Steam Sterilizer, 39 in. & 51 in. Single Door		6-4
600 Series Roughing-In Drawing, Steam Sterilizer, 39 in. & 51 in. Double Door		6-5
600 Series Roughing-In Drawing, Tables Document		6-6
600 Series Roughing-In Drawing, Notes Page		6-7
600 Series Roughing-In Drawing, Hold-Down Bracket Locations		6-8
600 Series Roughing-In Drawing, Seismic Anchor Information		6-9
600 Series Seismic Anchorage Calculations, Slab on Grade	700601 Rev. A	6-10
600 Series Seismic Anchorage Calculations, Upper Floor		6-12



NOTE

“SP” DRAWINGS SUPERCEDE “HS” DRAWINGS: Some special orders have a roughing-in drawing specific to the sterilizer being installed. These drawings are indicated by an “SP” prefix and are included in the manuals package. If a sterilizer has an “SP” drawing, install the unit according to the requirements listed on the “SP” drawing.

INSTALLATION DRAWINGS

Figure 6-1 is the roughing-in drawing for the 600 Series Steam Sterilizer. The content of each sheet is listed in Table 6-1.

Figure 6-2 is the seismic anchorage calculation for the 600 Series Steam Sterilizer. Calculations for slab on grade and upper floor installations are provided.

FIGURE 6-1, SHEET 1. 600 SERIES ROUGHING-IN DRAWING

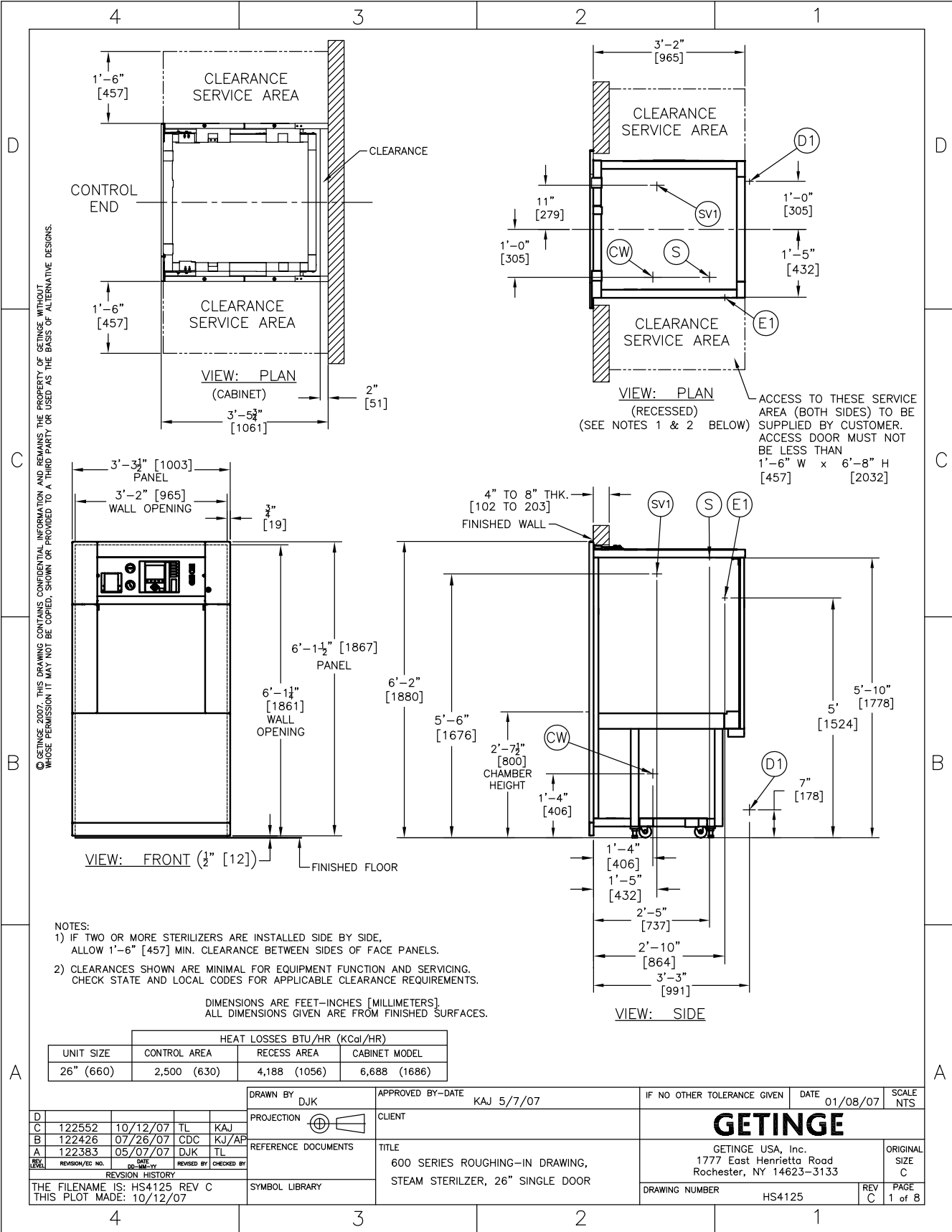


FIGURE 6-1, SHEET 2. 600 SERIES ROUGHING-IN DRAWING

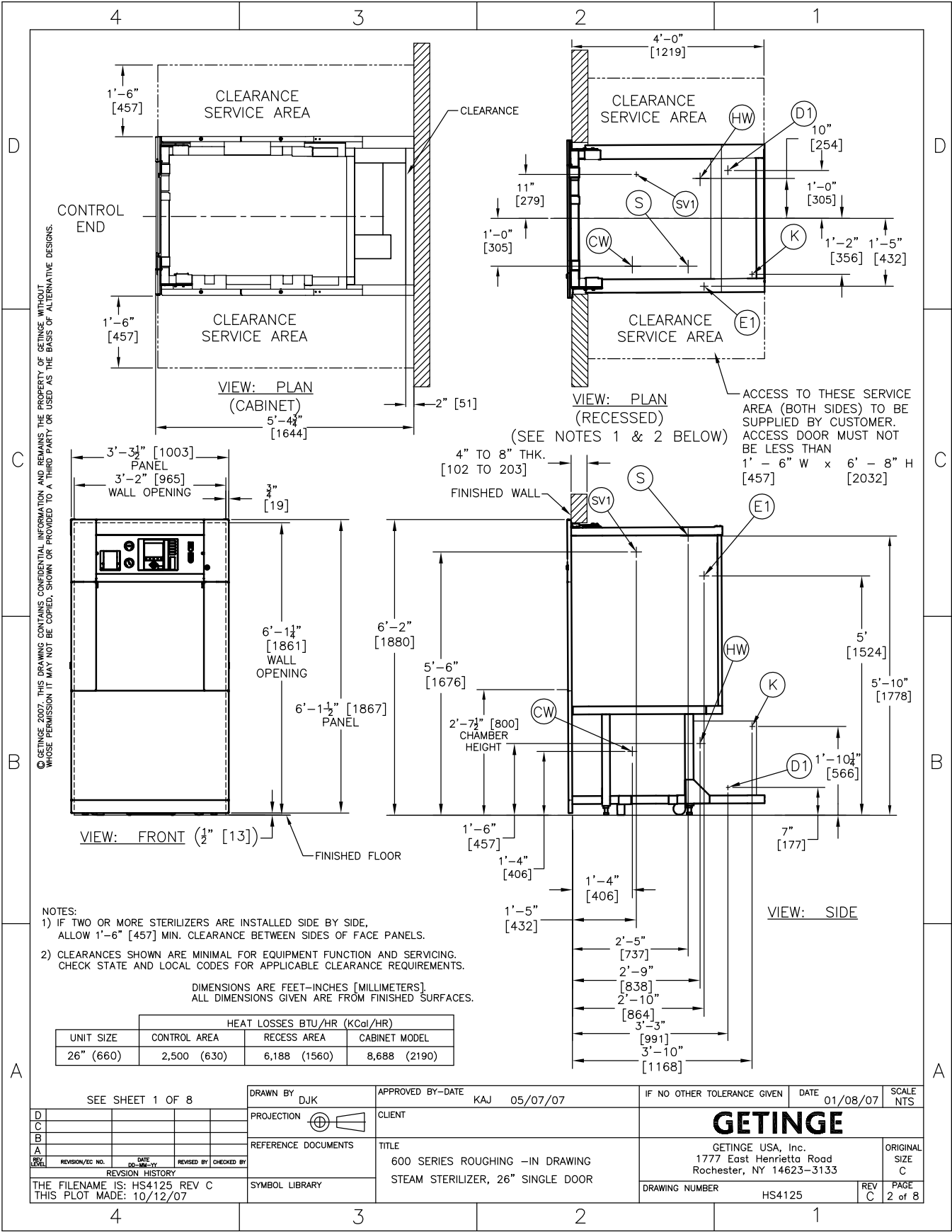


FIGURE 6-1, SHEET 3. 600 SERIES ROUGHING-IN DRAWING

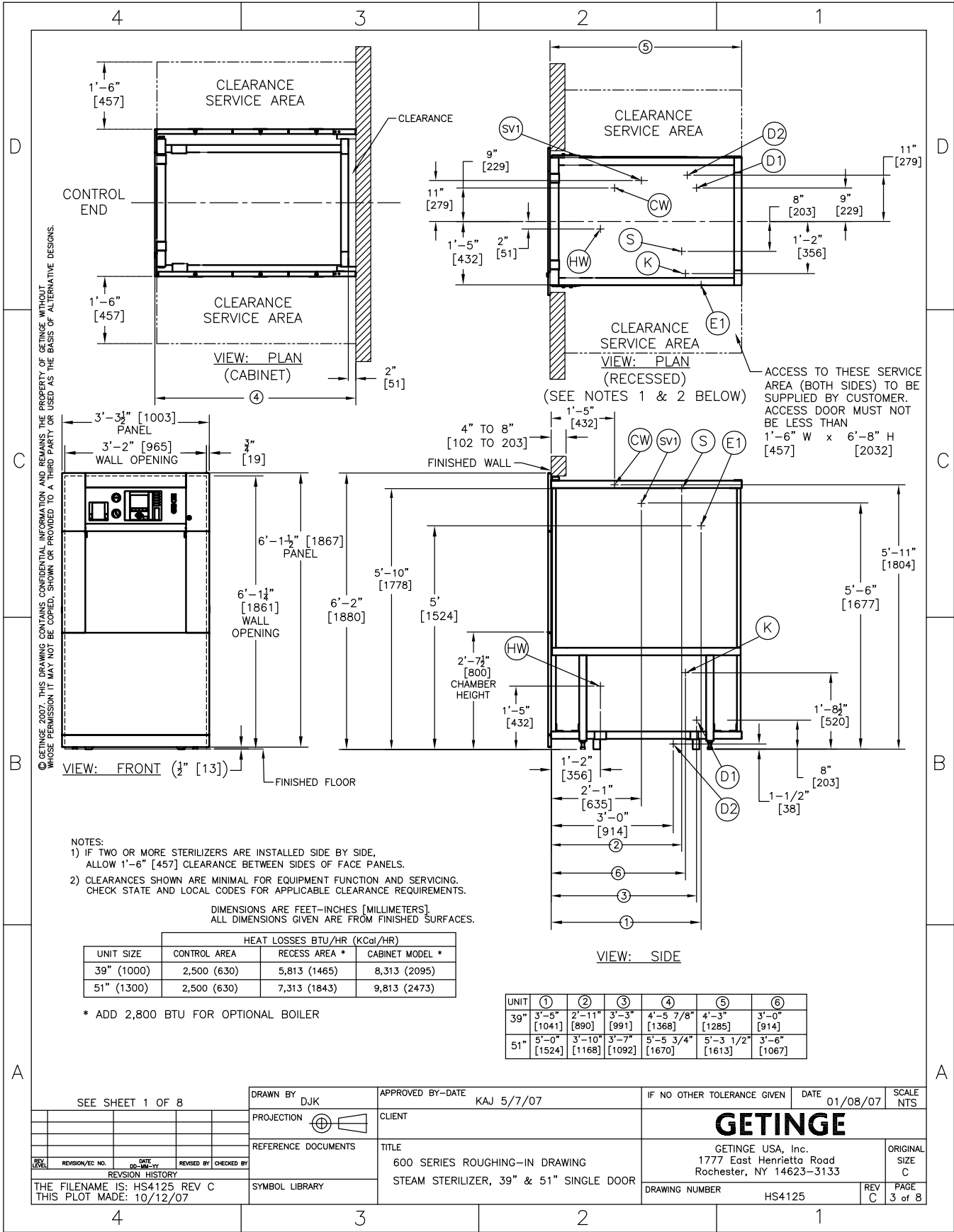


FIGURE 6-1, SHEET 4. 600 SERIES ROUGHING-IN DRAWING

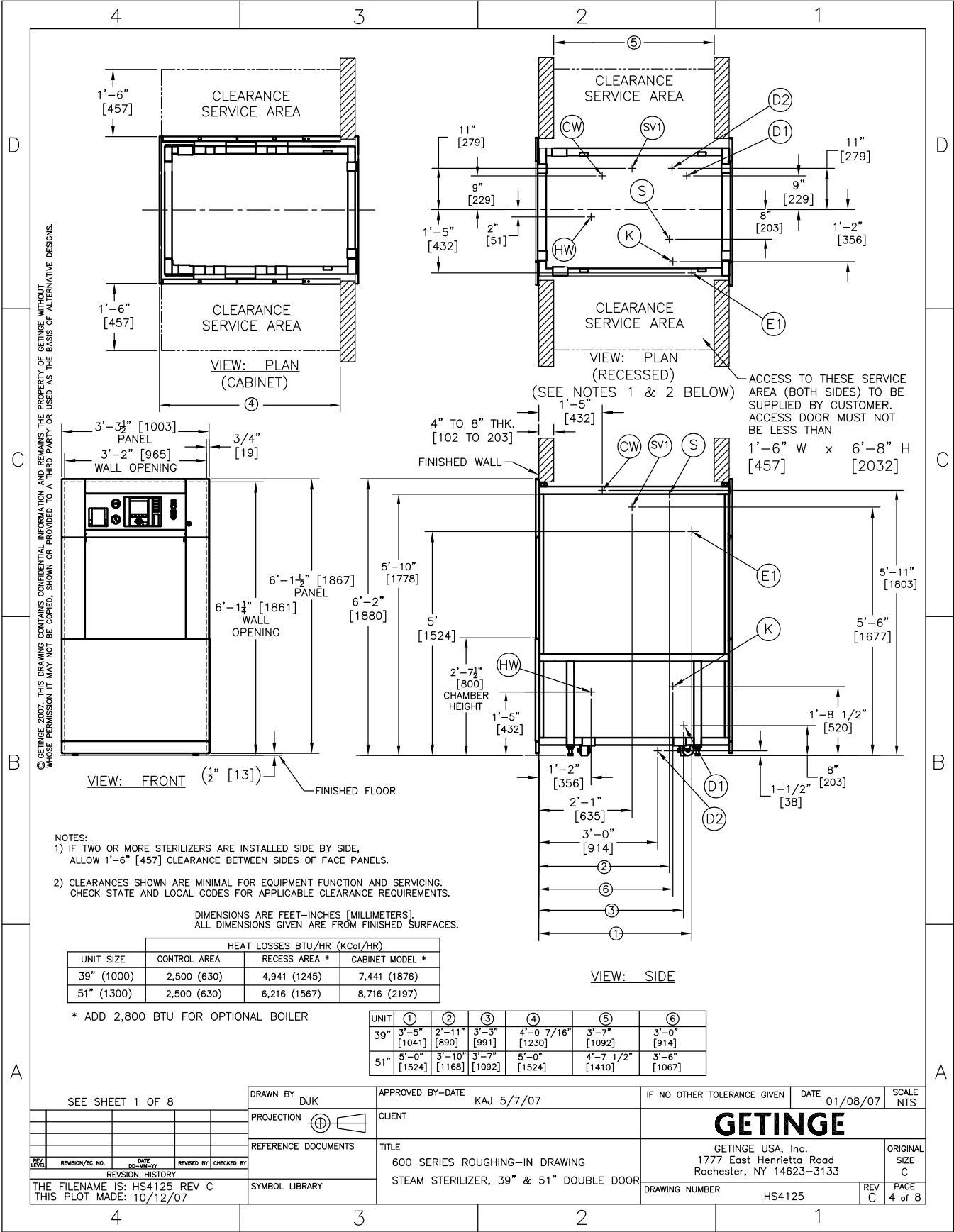


FIGURE 6-1, SHEET 5. 600 SERIES ROUGHING-IN DRAWING

4	3	2	1
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NOTICE: Work by others
 Safe and efficient operation of this product is dependent upon the owner/user providing the services specified herein as well as any other normally accepted electrical, mechanical or plumbing interface between user's supply and this product. Getinge USA will not assume responsibility for problems that result from non-compliance with the above conditions. The following conditions and services are required by Getinge USA equipment and are to be provided by others.

TABLE A: PLUMBING CONNECTIONS & UTILITIES (Refer to notes 1-6 on sheet 6)

ON UNIT CONNECTION	PIPE SIZE TO UNIT	PRESSURE RANGE DYNAMIC AT UNIT	FLOW RATE MAX
S = Steam 3/4" [19] NPT FEMALE SEE NOTE 4	1" [25] NPT	50-70 psig (3.5-4.9 kg/cm ²)	200 lbs./Hr (91 kg/Hr)
CW = Cold water 3/4" [19] NPT FEMALE or FOR WATER BOOSTER PUMP 1 1/4" [32] NPT FEMALE SEE NOTE 1	1" [25] NPT BOOSTER PUMP 1 1/2" [38] NPT	40-70 psig (2.8-4.9 kg/cm ²)	11 gpm (2.5 m ³ /Hr)
D1 = Drain 1 1/2" [38] ODT	SEE NOTE 3	Not applicable	SEE NOTE 3
HW = Hot water (BOILER UNIT ONLY) 1/4" [6] NPT FEMALE SEE NOTE 2	1/2" [13] NPT	20-50 psig (1.4-3.5 kg/cm ²)	0.6 gpm (.14 m ³ /Hr)
SV1 = Sterilizer (Jacket) pressure relief valve vent 3/4" [19] NPT FEMALE	SEE NOTE 5	Not applicable	SEE NOTE 5
SV3 = Steam Generator (BOILER UNIT ONLY) pressure relief valve vent 1" [25] NPT FEMALE	SEE NOTE 5	Not applicable	SEE NOTE 5
D2 = Boiler Drain/Blowdown (BOILER UNIT ONLY) 1/2" [13] NPT FEMALE	SEE NOTE 10	Not applicable	SEE NOTE 10

TABLE B: ELECTRICAL CONNECTIONS & UTILITIES (Refer to note 7 on sheet 6)

SERVICE	CONDUIT SIZE	UTILITY NOMINAL VOLTAGE	UTILITY VOLTAGE RANGE	MAX. CURRENT NOMINAL VOLTAGE	Breaker/Fusing Recommended
E1= Power Box	1/2" [13]	115V, 50/60 Hz, 1~	+/- 10%	12 A	15 A
OPTIONAL - connections required for optional equipment listed below					
E2= Integral Transformer Box	1/2" [13]	230V, 50/60Hz, 1~	+/- 10%	5 A	15 A
For 26" long sterilizer chamber with 30KW Integral Steam Generator: K= Electric 4 WIRE WITH GROUND	1 1/4" [32]	208V, 50/60Hz, 3~	188 - 216V	84 A	100 A
	1" [25]	240V, 50/60Hz, 3~	217 - 250V	73 A	100 A
	3/4" [19]	480V, 60Hz, 3~	432 - 500V	36 A	50 A
	3/4" [19]	600V, 60Hz, 3~	540 - 625V	29 A	40 A
For 39" or 51" long sterilizer chamber with 45KW Integral Steam Generator: K= Electric 4 WIRE WITH GROUND	2" [51]	208V, 50/60Hz, 3~	188 - 216V	125 A	150 A
	1 1/2" [38]	240V, 50/60Hz, 3~	217 - 250V	108 A	125 A
	3/4" [19]	480V, 60Hz, 3~	432 - 500V	54 A	60 A
	1/2" [13]	600V, 60Hz, 3~	540 - 625V	43 A	60 A

OPERATING ENVIRONMENTAL CONDITIONS
 Temperature: 50° - 104°F (10° - 40°C)
 Relative Humidity: 10% - 90% non-condensing
 Atmospheric Pressure: 0-6500 feet (0-2000 meters) elevation, (Special software needed for higher elevations)
 Pollution Degree: 2

SEE SHEET 1 OF 8

DRAWN BY DJK	APPROVED BY-DATE KAJ 5/7/07	IF NO OTHER TOLERANCE GIVEN	DATE 01/11/07	SCALE NTS
PROJECTION 	CLIENT	GETINGE		
REFERENCE DOCUMENTS	TITLE 600 SERIES ROUGHING-IN DRAWING TABLES DOCUMENT	GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133		
REVISION HISTORY	SYMBOL LIBRARY	DRAWING NUMBER HS4125	REV C	PAGE 5 of 8

THE FILENAME IS: HS4125 REV C
THIS PLOT MADE: 10/12/07

4	3	2	1
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FIGURE 6-1, SHEET 6. 600 SERIES ROUGHING-IN DRAWING

4	3	2	1
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NOTES TO ARCHITECTS & CONTRACTORS

1) Cold water:

- Cold water quality: Use potable water with a hardness of 0.5–10 grains/gal [8–170 ppm].
- Maximum temperature requirement is 80°F [27°C]. Optimal vacuum efficiency is at or below 70°F [21°C], 60°F [16°C] for optional LS vacuum pump.
- Back-siphonage protection is required by others. Check local plumbing code and install backflow preventer. (Examples: Vacuum breaker, dual-check or reduced pressure type).
- An optional water booster pump is available (See sheet 5 for pipe connection sizes):
 - * For installations where water pressure is at least 20 psig [1.4 kg/cm²] dynamic but less than 35 psig [2.8 kg/cm²].
 - * To achieve satisfactory performance with dense loads where dynamic pressure is at or below 35 psig [2.8 kg/cm²].
 - * If required backflow preventer lowers the water pressure below the minimum specified.
 - * The optional booster pump requires mechanical electrical and plumbing hook-up by customer. A separate electrical service to the water booster pump junction box is necessary. Contact your local Getinge USA representative for Utility Data

2) Hot water to be supplied only when integral steam boiler is selected.

- Water quality information: For optimum results, the feed water supply should be tested prior to initial startup. If the mineral content exceeds the following recommended limits, various external treatment processes (water softener, RO, etc.) may be used to correct the problem. Routine manual blow-down or automatic blow-down option lowers concentrations of impurities and maintains the pH level above 7.0.
- Feedwater quality:

HARDNESS	0.5–5.0 GRAINS/GALLON [8–85 PPM]
RESISTIVITY	NOT TO EXCEED 50 KOHMS/CM
TEMPERATURE	100°F – 150°F [38°C – 65°C]
TOTAL DISSOLVED SOLIDS	150 PPM MAX.
pH	6.8–7.5

3) It shall be the customer's responsibility to provide a proper drainage system in accordance with applicable local codes. Temperature of drain water will not exceed 140°F [60°C] under normal operating conditions. If cold water supply is cut-off, temperature may exceed 200°F [93°C].

4) For units without an integral steam generator, it shall be the customer's responsibility to provide condensate free steam between 97% and 100% saturated vapor.

5) Getinge USA recommends piping all vessel pressure relief valves to a vented manifold outside the equipment service area. Caution must be exercised not to reduce the discharge capacity of the relief valve. Recommended piping practices for relief valve piping can be found in ASME Boiler and Pressure Vessel Code Section VIII, Div. 1, UG-135. Check local codes for special requirements.

6) All customer connections to sterilizer must be labeled. For safety, all shutoff valves must be reachable when standing on the floor at the equipment (i.e. water, steam, compressed air).

7) Electrical Supply

- It shall be the customer's responsibility to complete all electrical connections in accordance with the National Electrical Code and all applicable local codes.
- A dedicated, permanently connected electrical supply with conveniently accessible disconnect switch (supplied by customer) is required for each sterilizer service indicated in Table B. Where both single phase and 3 phase supply is required, two disconnect switches can be used, yet shall be properly labeled and located as close as possible to each other and the sterilizer. Refer to the Getinge USA Installation Manual for specific instructions.
- For standard 115VAC units, 115VAC supply is required at "E1". For units with the optional 230V to 115V step-down transformer (integral with sterilizer), 230VAC supply is required at "E2" (and no connection at "E1").
- For voltages other than 115V or 230V, a separate universal transformer is available to provide 115VAC to "E1" with input voltage configurable to 100, 200/208, 380/400/415, or 440/460/480. It shall be the customer's responsibility to install the universal transformer. Transformer box dimensions: 10"L x 7 1/4" W x 5 3/8" D [254 x 184 x 137].

8) Double Door units, recessed into two walls, require partial dis-assembly of unit to allow installation into fixed walls.

9) Shipment and Building Access.

Required Door Access – Free and Clear	Width	Height
a) On skid/completely assembled	45"	80"
b) Off skid/completely assembled	40"	75"
c) Off skid/some paneling removed at extra cost – Requires casters	35"	73"

10) D2 is a Drain/Blowdown connection required on 39" and 51" units equipped with the integral 45kw steam boiler. The piping from this connection point is to be supplied by customer. 1/2" ID minimum pipe (to enable required discharge), 100 psig working pressure 300°F [149°C] capable. The D2 connection point requires connection to a separator tank (supplied by customer). Customer can order Getinge part number 530957 ES-18/24/30/36/48 blow down tank for this purpose.

UNIT WEIGHTS AND CRATED MEASUREMENTS TABLE

UNIT SIZE	MAX. WEIGHT	CRATED MEASUREMENTS
	CRATED	UNCRATED
26" SINGLE DOOR	1,160	1,010
39" SINGLE DOOR	1,365	1,190
39" DOUBLE DOOR	1,508	1,333
51" SINGLE DOOR	1,506	1,331
51" DOUBLE DOOR	1,649	1,474

SEE SHEET 1 OF 8	DRAWN BY DJK	APPROVED BY-DATE KAJ 5/7/07	IF NO OTHER TOLERANCE GIVEN	DATE 01/11/07	SCALE NTS
	PROJECTION	CLIENT	GETINGE		
	REFERENCE DOCUMENTS	TITLE	GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133		
	SYMBOL LIBRARY	NOTES PAGE	ORIGINAL SIZE C		
THE FILENAME IS: HS4125 REV C THIS PLOT MADE: 10/12/07			DRAWING NUMBER HS4125	REV B	PAGE 6 of 8

FIGURE 6-1, SHEET 7. 600 SERIES ROUGHING-IN DRAWING

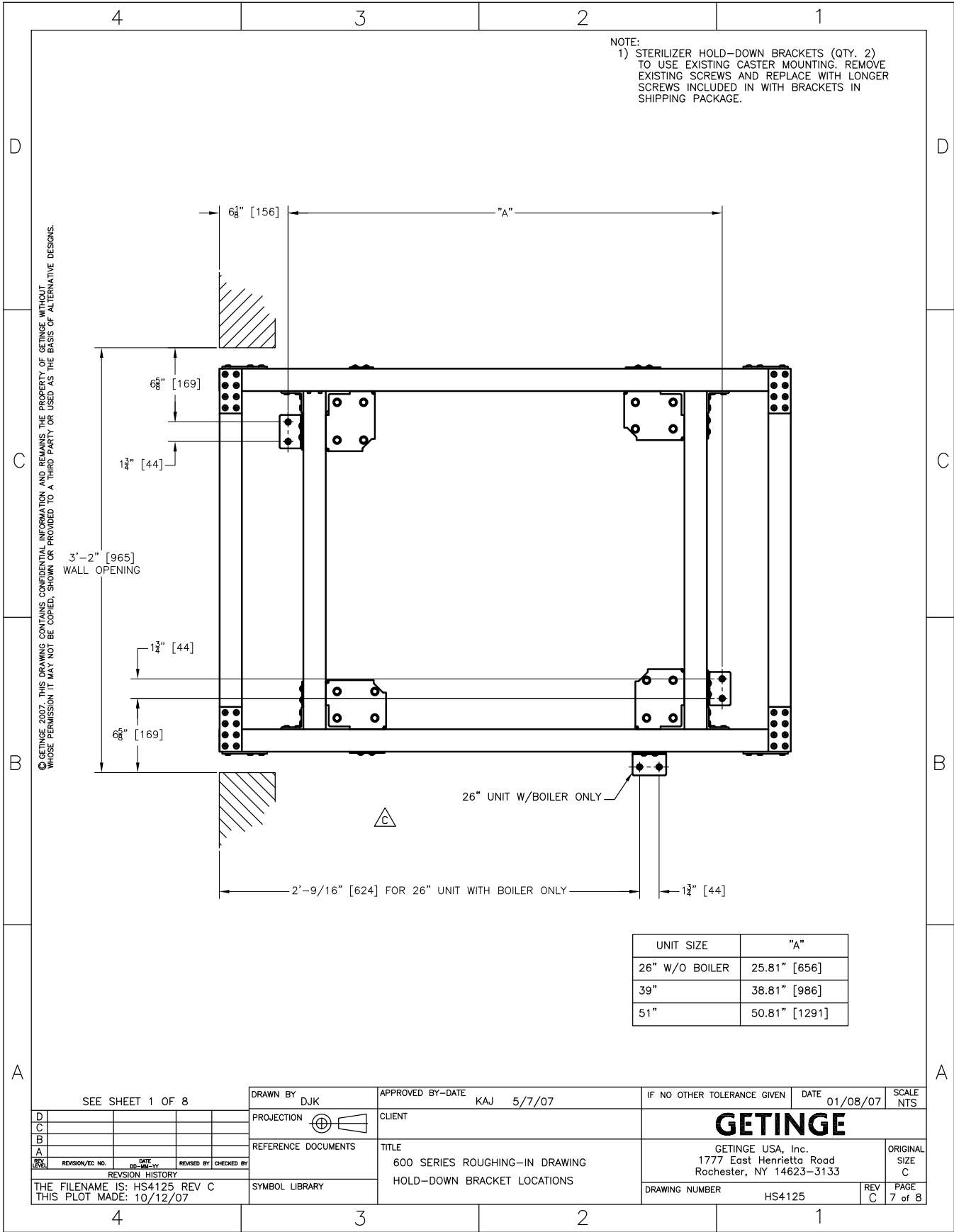


FIGURE 6-1, SHEET 8. 600 SERIES ROUGHING-IN DRAWING

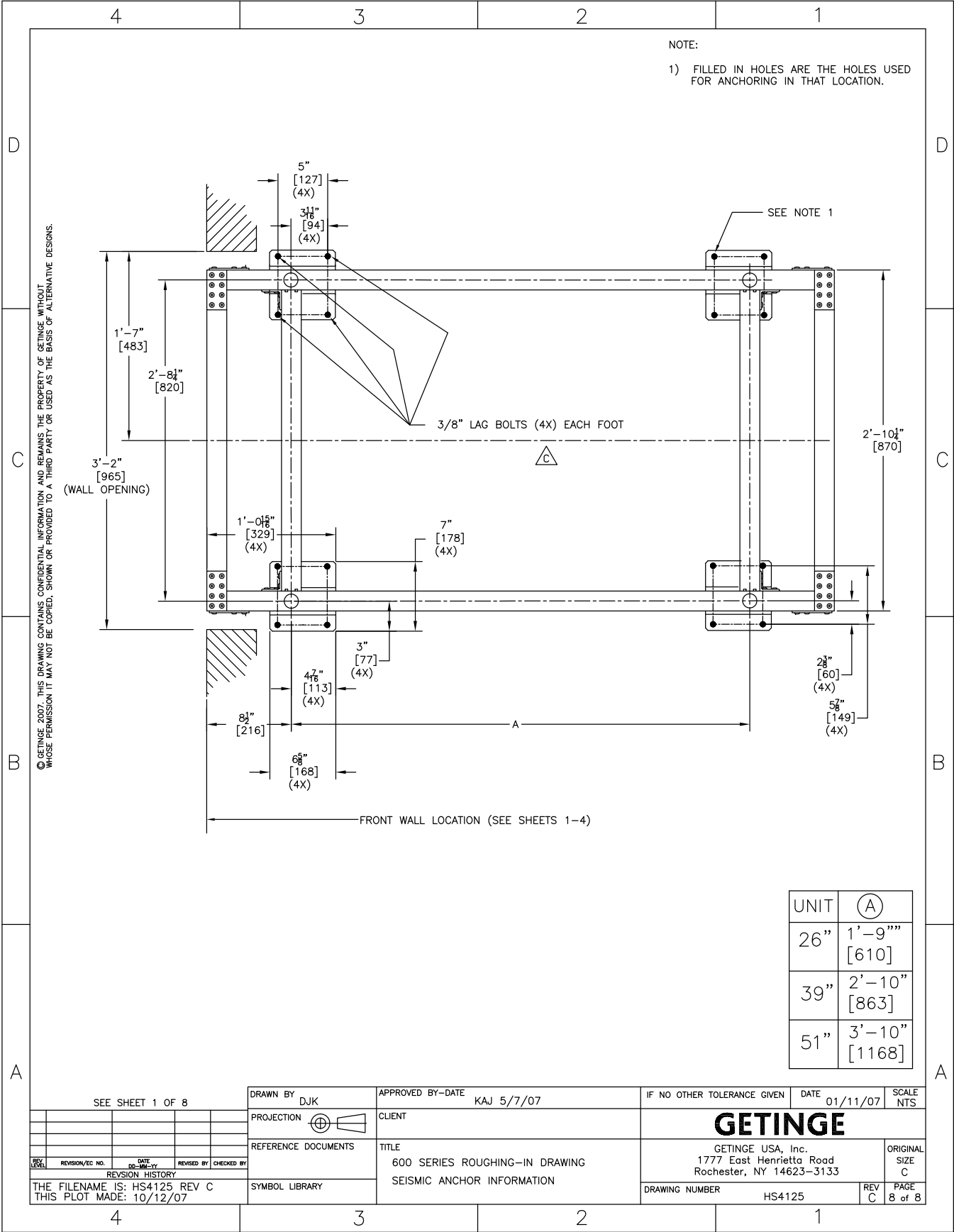
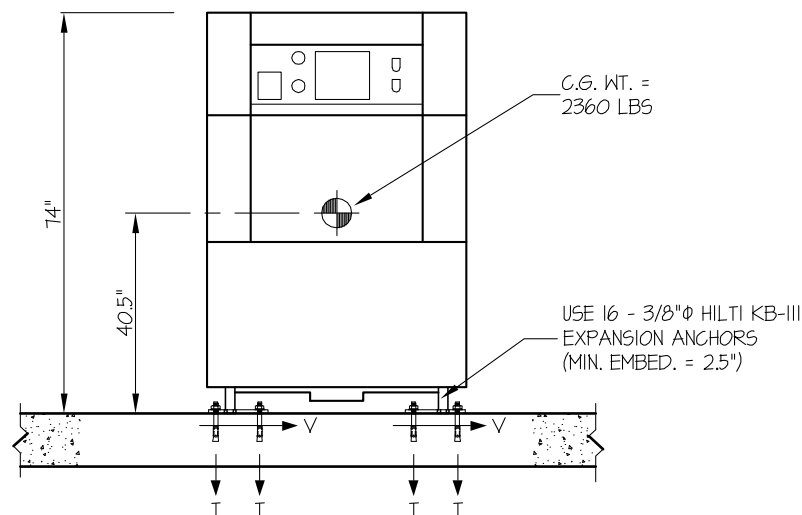


FIGURE 6-2, SHEET 1. 600 SERIES SEISMIC ANCHORAGE

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING www.equipmentanchorage.com		GETINGE PART NO. 700601	
GETINGE USA, INC. ROCHESTER, NEW YORK		DES. R. LA BRIE	SHEET 1 OF 4 SHEETS
		EASE JOB NO. 36-0701	
600 SERIES STEAM STERILIZER VESSEL SIZE: 26"W X 26"H X 26"L OR 39"L OR 51"L		DATE 9/20/07	
		REVISION	ECO NUMBER
		CURRENT B	122552
		PREVIOUS A	122413
			DATE
			12/10/07
			6/14/07

SEISMIC ANCHORAGE

SLAB ON GRADE



FRONT ELEVATION

T_{MAX} = 153 LBS / BOLT
V_{MAX} = 86 LBS / BOLT

NOTES:

- FORCES ARE DETERMINED PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE.
HORIZONTAL FORCE (V_H) = $0.50W$ ($C_a = .66$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 1.5$)
VERTICAL FORCE (V_V) = $0.35W$
- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS & HEIGHTS UP TO THE MAXIMUM SHOWN.
- ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

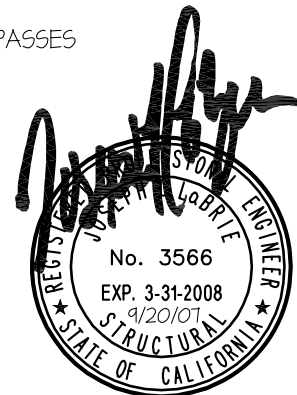
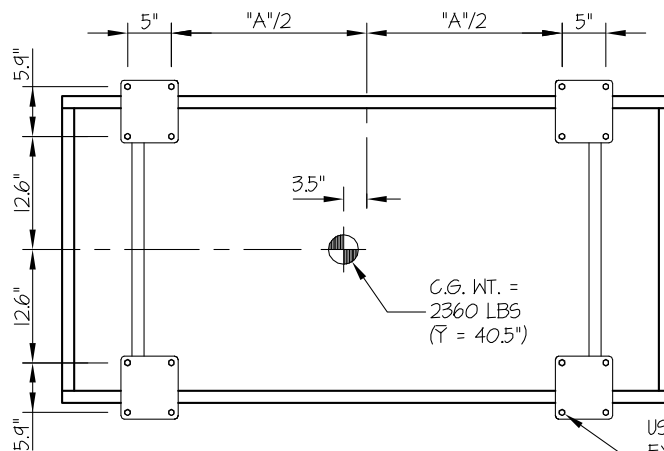


FIGURE 6-2, SHEET 2. 600 SERIES SEISMIC ANCHORAGE

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING www.equipmentanchorage.com		GETINGE PART NO. 700601							
GETINGE USA, INC. ROCHESTER, NEW YORK		DES. R. LA BRIE	SHEET 2 OF 4 SHEETS 700601						
		EASE JOB NO. 36-0701							
600 SERIES STEAM STERILIZER VESSEL SIZE: 26"W X 26"H X 26"L OR 39"L OR 51"L		DATE 9/20/07							
		<table border="1"> <tr> <th>REVISION</th> <th>ECO NUMBER</th> <th>DATE</th> </tr> <tr> <td>CURRENT B</td> <td>122552</td> <td>12/10/07</td> </tr> <tr> <td>PREVIOUS A</td> <td>122413</td> <td>6/14/07</td> </tr> </table>	REVISION	ECO NUMBER	DATE	CURRENT B	122552	12/10/07	PREVIOUS A
REVISION	ECO NUMBER	DATE							
CURRENT B	122552	12/10/07							
PREVIOUS A	122413	6/14/07							

SEISMIC ANCHORAGE

SLAB ON GRADE



PLAN AT BASE

EQUIPMENT LIST	
MODELS	TYPE
600 SERIES	STEAM STERILIZERS
61301607021	INSTALLATION MANUAL

UNIT	A
26"	13.6"
39"	26.6"
* 51"	38.6"

* THIS UNIT USED IN CALC BELOW

USE 16 - 3/8"Φ HILTI KB-III
EXPANSION ANCHORS
(MIN. EMBED. = 2.5")LOADS:

WEIGHT = 2360 LBS

HORIZONTAL FORCE (V_H) = 1180 LBSVERTICAL FORCE (V_V) = 826 LBSBOLT FORCES:

TENSION (T)

$$T_{\text{MAXIMUM}} = \left[\frac{1180\#(40.5'')(15.55'')}{4 \text{ BOLTS } (43.6'')(31.1'')} \times (0.3) \right] + \frac{1180\#(40.5'')(25.3'')}{4 \text{ BOLTS } (31.1'')(43.6'')} - \frac{(2360\# - 826\#)(25.3'')(15.6'')}{4 \text{ BOLTS } (43.6'')(31.1'')} = 153 \text{ LBS/BOLT (MAX)}$$

(HORIZ. - SIDE TO SIDE) (HORIZ. - FRONT TO BACK) (WEIGHT - V_V)

SHEAR (V)

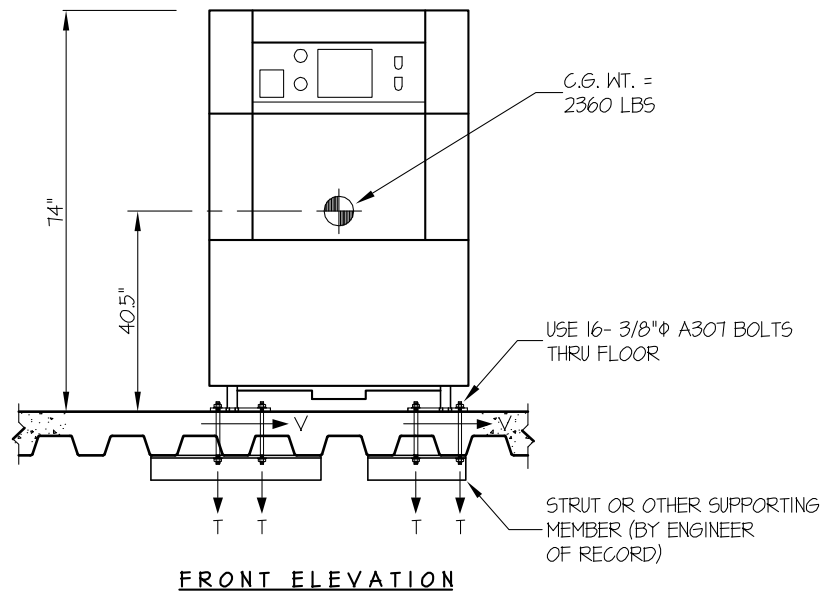
$$V = \frac{1180\#(25.3'')}{8 \text{ BOLTS } (43.6'')} = 86 \text{ LBS/BOLT (MAX)}$$

FIGURE 6-2, SHEET 3. 600 SERIES SEISMIC ANCHORAGE

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING www.equipmentanchorage.com		GETINGE PART NO. 700601								
GETINGE USA, INC. ROCHESTER, NEW YORK		DES. R. LA BRIE	SHEET 3 700601							
		EASE JOB NO. 36-0701								
600 SERIES STEAM STERILIZER VESSEL SIZE: 26"W X 26"H X 26"L OR 39"L OR 51"L		DATE 9/20/07	OF 4 SHEETS							
		<table border="1"> <thead> <tr> <th>REVISION</th> <th>ECO NUMBER</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>CURRENT B</td> <td>122552</td> <td>12/10/07</td> </tr> <tr> <td>PREVIOUS A</td> <td>122413</td> <td>6/14/07</td> </tr> </tbody> </table>		REVISION	ECO NUMBER	DATE	CURRENT B	122552	12/10/07	PREVIOUS A
REVISION	ECO NUMBER	DATE								
CURRENT B	122552	12/10/07								
PREVIOUS A	122413	6/14/07								

SEISMIC ANCHORAGE

UPPER FLOOR



T_{MAX} = 264 LBS / BOLT
V_{MAX} = 122 LBS / BOLT

NOTES:

- FORCES ARE DETERMINED PER 2001 CALIFORNIA BUILDING CODE - SECTION 1632A AND HAVE BEEN FACTORED TO REPRESENT WORKING DESIGN LOADS, NOT ULTIMATE.
HORIZONTAL FORCE (V_H) = $0.71W$ ($C_a = .66$, $a_p = 1.0$, $I_p = 1.5$, $R_p = 3.0$)
VERTICAL FORCE (V_v) = $0.35W$
- CENTER OF GRAVITY (C.G.) WEIGHT IS A MAXIMUM. THIS CALCULATION ENCOMPASSES ALL WEIGHTS & HEIGHTS UP TO THE MAXIMUM SHOWN.
- ARCHITECT OR STRUCTURAL ENGINEER OF RECORD SHALL PROVIDE SUPPORT STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN.

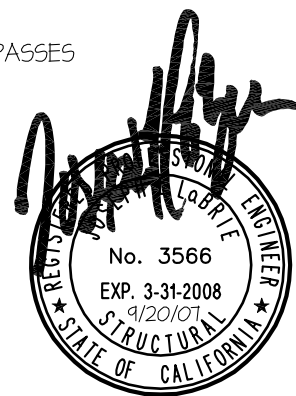
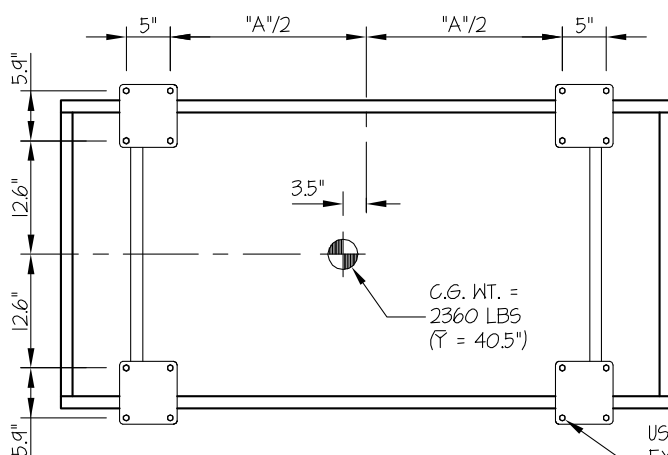


FIGURE 6-2, SHEET 4. 600 SERIES SEISMIC ANCHORAGE

EASE EQUIPMENT ANCHORAGE & SEISMIC ENGINEERING www.equipmentanchorage.com		GETINGE PART NO. 700601	
GETINGE USA, INC. ROCHESTER, NEW YORK		DES. R. LA BRIE	SHEET 4 OF 4 SHEETS
600 SERIES STEAM STERILIZER VESSEL SIZE: 26"W X 26"H X 26"L OR 39"L OR 51"L		EASE JOB NO. 36-0701	
		DATE 9/20/07	
		REVISION CURRENT B 122552 PREVIOUS A 122413	ECO NUMBER 122552 122413
		DATE 12/10/07 6/14/07	

SEISMIC ANCHORAGE

UPPER FLOOR

PLAN AT BASE

EQUIPMENT LIST	
MODELS	TYPE
600 SERIES	STEAM STERILIZERS
61301607027	INSTALLATION MANUAL

UNIT	A
26"	13.6"
39"	26.6"
* 51"	38.6"

* THIS UNIT USED IN CALC BELOW

 USE 16 - 3/8"Φ HILTI KB-III
 EXPANSION ANCHORS
 (MIN. EMBED. = 2.5")
LOADS:

WEIGHT = 2360 LBS

HORIZONTAL FORCE (V_H) = 1676 LBSVERTICAL FORCE (V_V) = 826 LBSBOLT FORCES:

TENSION (T)

$$T_{\text{MAXIMUM}} = \left[\frac{1676\#(40.5'')(15.5'')}{4\text{ BOLTS } (43.6'')(31.1'')} \times (0.3) \right] + \frac{1676\#(40.5'')(25.3'')}{4\text{ BOLTS } (31.1'')(43.6'')} - \frac{(2360\# - 826\#)(25.3'')(15.6'')}{4\text{ BOLTS } (43.6'')(31.1'')} = 264 \text{ LBS/BOLT (MAX)}$$

(HORIZ - SIDE TO SIDE) (HORIZ - FRONT TO BACK) (WEIGHT - V_V)

SHEAR (V)

$$V = \frac{1676\#(25.3'')}{8\text{ BOLTS } (43.6'')} = 122 \text{ LBS/BOLT (MAX)}$$

SECTION 7 TECHNICAL DATA

INTRODUCTION

The 600 Series Steam Sterilizers are available in three sizes and have many available options.

This following information is covered within this section:

- Sterilizer Dimensions (see page 7-2)
- Steam Supply Quality (see page 7-3)
- Steam Boiler Feedwater Quality (see page 7-5)

STERILIZER DIMENSIONS

INTERIOR DIMENSIONS

The following table lists interior dimensions for 600 Series Steam Sterilizers.

TABLE 7-1. 600 SERIES STERILIZER INTERIOR DIMENSIONS

MODEL	WIDTH	HEIGHT	LENGTH	VOLUME
633HC/633LS Single Door	672 mm (26.4 in.)	672 mm (26.4 in.)	660 mm (26.0 in.)	298 L (10.5 cu. ft.)
			1000 mm (39.4 in.)	452 L (16.0 cu. ft.)
			1300 mm (51.2 in.)	588 L (20.9 cu. ft.)
633HC/633LS Double Door	672 mm (26.4 in.)	672 mm (26.4 in.)	1000 mm (39.4 in.)	452 L (16.0 cu. ft.)
			1300 mm (51.2 in.)	588 L (20.9 cu. ft.)

EXTERIOR DIMENSIONS (WITH CABINET PACKAGE)

The following table lists the exterior dimensions for the 600 series steam sterilizers.

TABLE 7-2. 600 SERIES STERILIZATION EXTERIOR DIMENSIONS

MODEL	CHAMBER LENGTH	WIDTH	HEIGHT	LENGTH
633HC/633LS Single Door	600 mm (26.0")	1003 mm (39.5")	1882 mm (74.1")	1061 mm (41.8") (without steam boiler)
				1644 mm (64.8") (with steam boiler)
	1000 mm (39.4")			1368 mm (53.9")
	1300 mm (51.2")			1671 mm (67.8")
633HC/633LS Double Door	1000 mm (39.4")	1003 mm (39.5")	1882 mm (74.1")	1230 mm (48.4")
	1300 mm (51.2")			1524 mm (60.0")



NOTE

The 633HC sterilizer requires a minimum wall opening of 965 mm (W) x 1861 mm (H) (38.0 in. x 73.25 in).

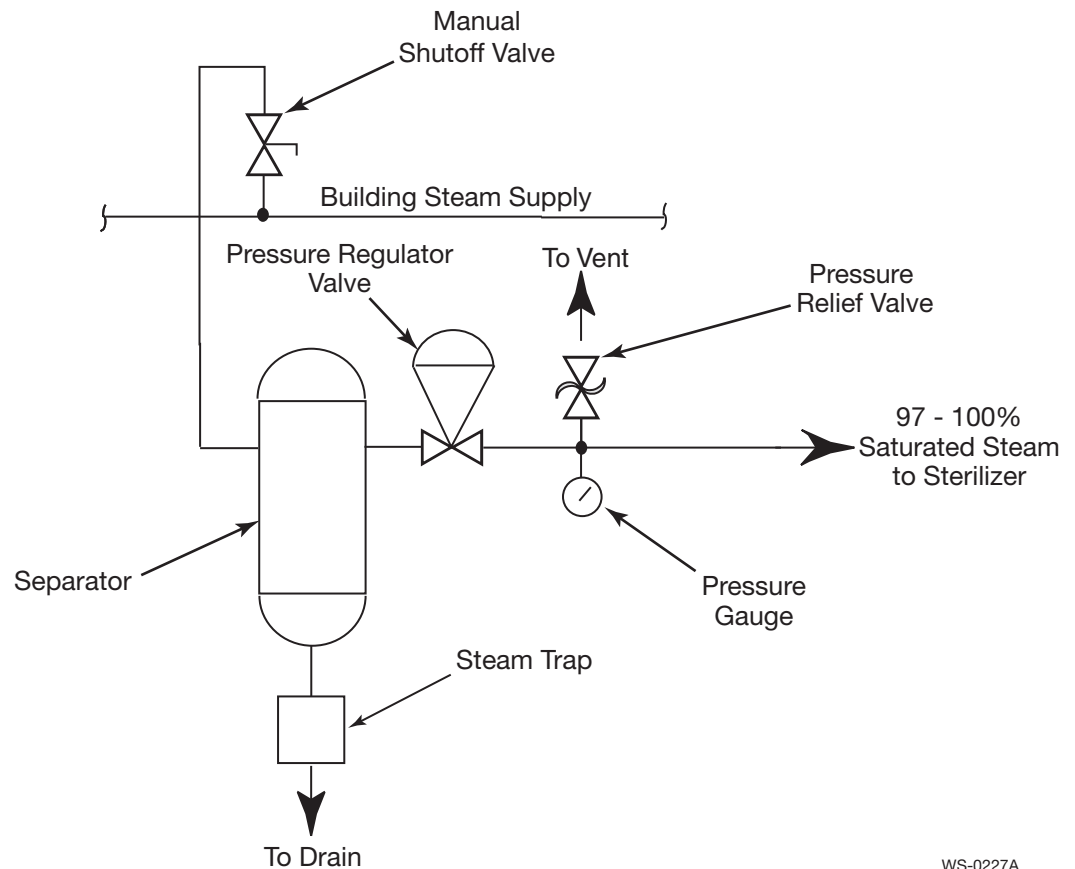
STEAM SUPPLY QUALITY

It shall be the customer's responsibility to provide condensate-free steam between 97% and 100% saturated vapor. Failure to comply with this requirement may result in decreased sterilizer function, performance, and reliability.

Two methods which may assist in meeting this requirement are:

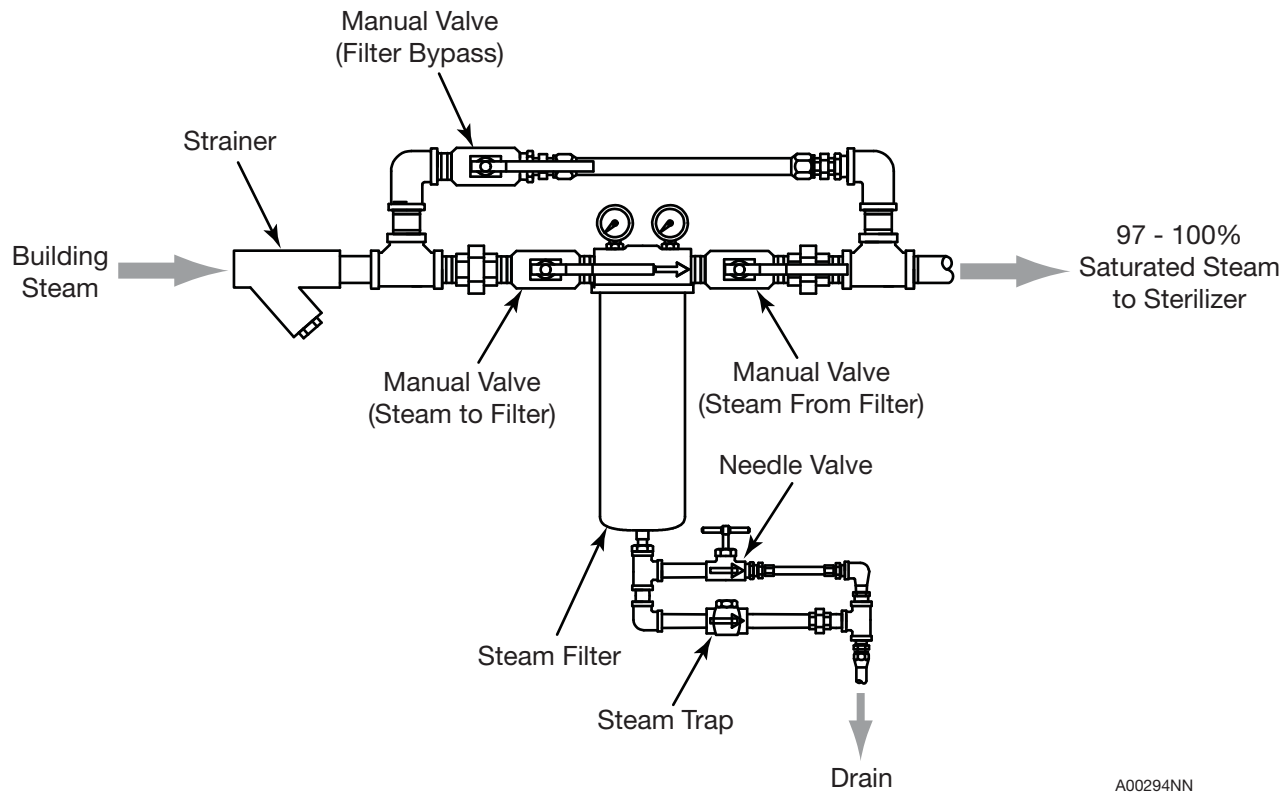
- Installing a thermodynamic steam trap and associated piping as shown in Figure 7-1.
- Installing an MP-106 Steam Conditioning Package (Figure 7-2 on page 7-4) which may be purchased from Getinge.

FIGURE 7-1. TYPICAL STEAM SUPPLY PIPING



WS-0227A

FIGURE 7-2. MP-106 STEAM CONDITIONING PACKAGE



A00294NN

STEAM BOILER FEEDWATER QUALITY

For optimum results, the feedwater supply should be tested prior to initial startup. If the mineral content exceeds the following recommended limits, various external treatment processes (water softener, RO, etc.) may be used to correct the problem. Routine manual blow-down or automatic blow-down option lowers concentrations of impurities and maintains the pH level above 7.0.

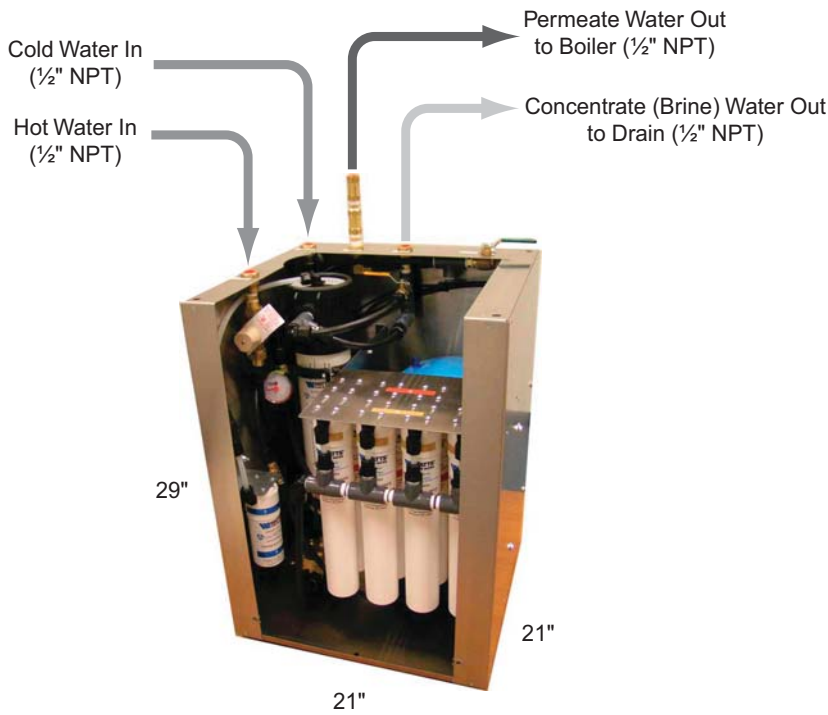
Feedwater quality:

- Hardness: 0.5 to 5.0 grains/gallon (8 to 85 ppm)
- Resistivity: Not to exceed 50 Kohms/cm
- Temperature: 100°F to 150°F (38°C to 65°C)
- pH: 6.8 to 7.5

An analysis of the on-site boiler feedwater should be made by a recognized and reliable water treatment company to ascertain the existing condition and treatment required.

Reverse osmosis (RO) water treatment systems of various capacities may be purchased from Getinge. The Model HS-300 Water Treatment System (Figure 7-3) meets the requirements of one 633HC Steam Sterilizer. For installations where one water treatment system will supply multiple sterilizers, consult your Getinge representative.

FIGURE 7-3. HS-300 WATER TREATMENT SYSTEM



Approximate Dimensions

A07027-V

SECTION 8 FUNCTIONAL CHECK

INSTALLATION CHECK

INSPECTION BY INSTALLERS

Upon completion of installation:

1. Inspect and remove any debris.
2. Tighten any loose hardware.
3. Check that utilities are connected properly and piping and wiring comply with all applicable codes.



CAUTION

Be sure wires, cables, and tubing are routed and secured away from steam lines.

4. Check that sterilizer is anchored to the floor and seismic anchoring (if required) complies with all applicable codes.
5. Check that face panels are installed and secure.
6. Check that cabinet panels (optional) are installed and secure.

FINAL INSPECTION BY GETINGE

The sterilizer is not to be operated until the installation is inspected by a Getinge representative.

VALIDATION BY CUSTOMER

This sterilizer allows the user to modify cycle settings which may result in cycle parameters that will not achieve the desired sterility assurance level (SAL). The customer is responsible for validation of any cycles that use parameters other than the factory set parameters.



NOTE

Operating instructions for the sterilizer are beyond the scope of this manual. Read the User Manual before operating the sterilizer.

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